

An exploratory study of leadership behaviour and strategic change in small,
high-performing, U.S. technology firms

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Abstract

This study is an explorative investigation of the role of leadership behaviour in process reconfiguration as a strategic change outcome. Motivated by 25 years of experience observing over 200 small firms implementing process innovation initiatives, the researcher noticed that some firms were more successful than others and speculated that leadership is a key factor in sustaining strategic process change. Strangely, the strategy and leadership literature do not inform each other.

Although the role of management in strategy is now being addressed through the subset of the dynamic managerial capabilities literature, the role of leadership is still largely being ignored. While the dynamic managerial capabilities framework appears very promising, it only addresses two of the dynamic capabilities constructs (evolutionary and technical fitness) and ignores the third construct: entrepreneurial fitness, a concept Teece (2009) introduced but left unexplained. Interestingly, entrepreneurial fitness was vaguely linked to leadership but was left unexplained and has largely been ignored in the strategy literature.

The leadership literature, particularly the transformational leadership stream, seems to indicate that leadership is an enabler, if not a source of, competitive advantage. This mutuality of the leadership and strategy literature appears to be different sides of the same coin that remain uninterested in each other. As a result, this study examined the interface of these two literatures and investigates the phenomenon of leadership and strategic change. An inductive multiple case study approach utilizing primarily semi-structure interviews and a leadership style questionnaire was conducted.

This study discovers dynamic leadership capabilities of sensing, committing, communicating, and coordinating, which were linked to leadership styles. Transactional leaders express dynamic leadership capabilities sequentially, while transformational leaders express them all together as needed. The study found that, in the presence of these dynamic leadership capabilities, change coheres and builds, thus sustaining process reconfiguration. Likewise, in the absence of dynamic leadership capabilities, change is dissipative. The research findings suggest and offer for further development that entrepreneurial fitness is heavily dependent on transformational leadership style and patterned learning enabled by the dynamic leadership capabilities of sensing, committing, communicating and coordinating.

Dedication

In loving memory of one of the greatest leaders I have ever known: my father, the late Deputy Prime Minister of Belize, Honorable Carl Lindbergh Bernard Rogers. This one is for you, Dad.

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When one takes on a personal journey such as attaining a doctoral degree, numerous people help in many different ways. First and foremost, I would like to thank my Morehouse family who encouraged me to pursue my dream and made attaining it possible through gifts of time and resources. Special appreciation to Dr. John Williams for his unwavering support.

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To all my friends and family, I could not have done this without your loving support. To my friend, Yolanda Clark Copeland, thank you for listening to the many phone calls and encouraging me through the process. To my mother, Sonia Reed, no stronger love can a daughter receive. To my children, Mason and Maya, hopefully you have witnessed that anything is possible with hard work and determination. Dream big dreams, and take action. Last, but certainly not least, to my husband Greg, thank you from the bottom of my heart for making it a bit easier for me to focus and push on.

ACADEMIC REGISTRY

Research Thesis Submission



Name:	Tiffany Rogers Bussey		
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Definitions

Capability: The capacity to perform a particular task, function, or activity that can be operational or dynamic (Helfat et al, 2007).

Capability Maturity Model Integration (CMMI): A suite of best practices that addresses the development and maintenance of products and services covering the product life cycle from conception through delivery and maintenance. When implemented collectively in an organization's processes, the model supports the achievement of business goals associated with productivity, quality, cost, schedule, and customer satisfaction (Chrissis et al, 2003).

Capacity: The ability to perform a task, function, or activity in at least a minimally acceptable manner (Helfat et al, 2007).

Dynamic capabilities: The capacity of a firm to purposefully search, seize and reconfigure its resource base to create and respond to changing technologies, competition and market changes (Teece, 2009).

Entrepreneur-Manager: An owner of an independently operated firm who is also the firm's key leader and executive manager (Mazzarol and Reboud, 2009).

Institutionalization: The process by which social processes, obligations, or actualities take on a rule-like status in social thought and actions (Meyer and Rowan, 1977: 341).

International Standards Organization (ISO) 9001:2000 and ISO 20000: A series of quality management standards that addresses what an organization does to fulfil customer requirements; applicable regulatory requirements that aim to enhance customer satisfaction and achieve continual improvement of performance in pursuit of these objectives (International Organization for Standardization Commission, 2000).

Leaders: Individuals in an organization who have the ability to influence others in the organization to get something done. Not all managers are necessarily leaders, and not all leaders are managers (De Wit and Meyer, 2010).

Leadership: A process of mutual influence among leader and followers to accomplish purposes that bring about relevant organizational change (Daft, 2008; Bass, 1990; Antonakis et al, 2003).

Managers: Individuals with formal positions in the organizational hierarchy and with associated authority and responsibilities (De Wit and Meyer, 2010).

Operational Capability: Any capability that an organization uses to earn a living in the present (Helfat et al, 2007).

Process: An activity or set of activities that transforms inputs to outputs (Davenport, 1993).

Process reconfiguration: To nurture change and innovation of new processes, new work strategies, new process design activity, and implementation of change (Teece, 2009; Helfat et al, 2007).

Reconfiguration: The ability to create, adjust, and, if necessary, replace models, including processes (Teece, 2009).

Resource base: Tangible, intangible, and human assets (or resources), as well as capabilities that a firm owns, controls, or has access to on a preferential basis (Helfat et al, 2007).

Seizing: The ability to quickly capture and commit resources (Teece, 2009).

Sensing: The ability to spot, interpret, and pursue opportunities to meet customers' needs (Teece, 2009).

Strategic planning: A core part of business culture that functions to reduce perceived risk for entrepreneur-managers and stakeholders through acquisition and analysis of information (Mazzarol and Reboud, 2009).

Chapter 1 – Introduction

1.1 Significance of the Study

The aim of this research is to contribute to the understanding of both leadership behaviour (Cyert, 1992; Senge, 1990) in strategy, specifically the role of the strategist in strategic management, and the growing interest in the role of management action in what has been termed 'dynamic managerial capabilities' (Helfat et al, 2007). The primary purpose of this study is to explore the links between leadership behaviour and strategic change in sustained high-performing small firms using inductive theory-building. This research study is conducted around one research question: How does leadership behaviour influence process reconfiguration in sustained high-performing small firms? The study had three objectives: (1) to explore the specific leadership behaviour that contributes to process reconfiguration, (2) to address a deficiency in the dynamic capabilities literature that says leadership and learning are important but is vague on specifics and actual practices, and (3) to build a theory explaining the link between leadership behaviour and strategic organizational change.

According to Johnson, Melin, and Whittington (2003:4),

The economic environment has moved rapidly towards open markets, mobile labour and information abundance. Resources are increasingly tradable and security from market entry and strategic imitation is falling. In these fluid resource markets, sustainable advantage must lie in the micro assets that are hard to discern and awkward to trade. Profit, not just the devil, lies in the detail.

Built on the resource-based view of strategy (Barney, 1986, 1991, 2001), the dynamic capability framework (Teece, Pisano, and Shuen, 1997; Teece 2009) explains that capabilities necessary to sustain superior firm performance in rapidly changing environments depend heavily on a firm's managerial resources. These resources include the firm recognizing problems and trends, directing and redirecting resources, and reshaping organizational structures and systems to create and address technological opportunities while staying aligned with customer needs. The dynamic capability framework identified three classes of managerial skills necessary to sustain superior performance: the ability to (1) sense opportunities, (2) seize opportunities, and (3) reconfigure resources. However, the dynamic capabilities framework falls

short of describing what reconfiguration looks like or how it happens in a firm. Based on professional experience and observation of small firms, the researcher believes that leadership behaviour and practices play key roles in reconfiguration of resources and implementation of process innovation. The aim of this research was to explore the possible link between leadership behaviour and strategic change in sustained high-performing small firms by utilizing inductive theory building and case study research.

1.2 Background Information

1.2.1 Definition of Small Business/Small Medium Enterprises (SMEs)

The terms 'small business' and 'small to medium enterprises' (SMEs) are widely used to indicate those businesses that sit outside the large-scale, mainstream, or corporate sectors. Unlike their larger counterparts, small firms employ fewer people, possess fewer assets, turn over less income, and operate in fewer markets (Mazzarol and Reboud, 2009). The fact that small businesses have a key role in job creation has been documented in numerous studies; however, exactly what that role is has been the subject of much debate. According to Asquith and Western (1994) and Organisation for Economic Co-Operation and Development (OECD, 2004), small firms comprise the greatest number of business enterprises, and in most nations, they are a significant source of job creation. Small businesses make up around 95% of all businesses and contribute about 50% of direct value added production (OECD, 2004). This study's focus on how to assist small firms in becoming long-term viable entities makes it both relevant and timely, especially when known business paradigms seem to fail as business leaders struggle to find new ways to recover from a global recession. Small businesses will play a significant role in bolstering the economy as owners continue to spur new innovation and create new employment.

1.2.2 Small Business in the U.S. Economy

According to the U.S. Small Business Administration (SBA, 2010), in 2010, small businesses with fewer than 500 employees accounted for half of the nation's private, nonfarm real gross domestic product, and half of all Americans who work in the private sector are employed by a small firm. The 2010 census results reported that small firms with fewer than 500 employees represented 99.7% of the 24.7 million businesses in the United States, employed just over half of all private sector employees, generated 64% of net new jobs over the past 15 years, and hired 40% of high-tech workers such as scientists, engineers, and computer programmers. As the United States and the rest of the world struggle to find a way out of the global

recession, many public policy resources are being focused on small business development. In February 2009 under the American Recovery and Reinvestment Act (ARRA), the U.S. government invested \$787 billion in infrastructure development, scientific research, and among other initiatives, significant tax incentives to existing small business. Funding to the SBA was also increased by \$730 million to provide guaranteed loans and increased technical assistance to U.S. small businesses. In September 2010, the U.S. Congress approved the Small Business Jobs Act, which potentially added \$45 billion to small business lending funds (SBA, 2010).

1.2.3 Small Business and Innovation

Small businesses play a significant role in U.S. innovation efforts. New entrepreneurial firms account for much of the net job creation in the United States, and one reason often cited is their ability to innovate and find new niches for products and services (Timmons, 1998). According to a growing body of research, small businesses and the economies that best support them have a key role in generating innovation. Research by Acs, Morck and Yeung (1999) identified several important roles that small firms play in globalization.

However, Mazzarol and Reboud (2009) pointed out that not all small firms are entrepreneurial or innovative. This idea was further supported by Acs, Parsons, and Tracy (2008), who found that firms with fast-growing revenue and employment tend to be older, with the average age of such 'high-impact' firms being 25 years. The authors defined a 'high-impact' firm as an enterprise with sales that doubled over the recent four-year period and an employment quantifier of two or more over the same period. These 'high-impact' firms account for between 2 and 3% of all firms, but virtually all of the growth in the private sector employment can be attributed to them (Birch, 1979). These findings do not negate the importance of small businesses but heighten the urgency of better understanding the dynamics that drive innovation within them.

1.2.4 U.S. Federal Contracting Sector and Small Business

Small businesses obtained \$97.9 billion in direct prime federal government contracts in fiscal year 2010 (SBA, 2010). This figure amounts to 22.6% of the \$432.2 billion spent on federal procurement, which is up from \$96.8 billion spent with small firms in fiscal year 2006. In addition to direct contracts, small businesses were awarded \$64 billion in subcontracts for a total of more than \$161.9 billion in prime and subcontracting dollars (Clark and Saade, 2009). Despite the increase in total

contract awards to small businesses, federal agencies missed the total procurement goal of 23% of all federal contracts to small businesses. This issue remains an opportunity and a challenge for both the federal government as a customer and the small businesses sector as a supplier.

To ensure uniformity of deliverables received from both large and small suppliers the federal government began requiring most of its suppliers to be certified in certain process improvement systems to bid on new federal contracts. This mandate led many small businesses in the federal sector to pursue costly process improvement systems that, in fact, are used by many of the small companies that pursue federal contracting business. These process innovation systems, such as Capability Maturity Model Integration (CMMI), Lean Six Sigma and the suite of ISO 9000 certification (e.g. ISO 9001:2000, ISO/IEC 20001, and AS 9100), are often pursued by small business management to obtain a competitive advantage for market entry or market penetration into the federal sector.

1.2.5 Small Business Public Policy/Department of Defense Mentor Protégé Program

For many years, business and government leaders have recognized that entrepreneurship and business ownership are the cornerstone of a thriving economy. In 1953, the U.S. government officially began assisting small businesses with the enactment of the Small Business Act, which created the SBA. The Act, as amended (15 U.S.C. 631 et. Seq., Public Law 85-536), created the SBA to aid, counsel, assist, and protect the interests of small businesses in the United States. Since its creation, the SBA has been expanded by numerous laws, executive orders, and initiatives to further assist small firms in obtaining government business and becoming viable entities.

The Pilot Mentor-Protégé Program was officially established in November 1990 as an amendment to the fiscal year 1991 National Defense Act, as amended (Public Law 101-510), Section 831 of the Title VIII. The Mentor-Protégé Program is based on the premise that large prime companies such as Lockheed Martin, IBM, and HP (mentors) could provide developmental assistance services to small existing firms (protégés) in areas that will help the small firms grow and develop their capabilities as suppliers in the federal sector. In return, the mentors may receive cash reimbursement or credit toward subcontracting goals from the government. The qualified areas of offering are technology transfer and management infrastructure training, which

includes business development, human resources, financial systems, and quality/process improvement systems. Under DFARS Appendix I – Policy and Procedures for the Department of Defense Pilot Mentor-Protégé Program, section I-106, subsection 7, states that assistance that the mentor firm obtains for the protégé firm can only be from one of the following: Small Business Development Centers, Procurement Technical Assistance Centers, historically Black colleges and universities, and minority institutions of higher education.

1.3 Purpose of the Study

Despite its significance, the small firm remains one of the most poorly understood business entities, surrounded by substantial myths and a certain degree of mystery (Gibb, 2000). Research literature largely ignores SMEs in terms of sources of firm-specific advantages. This lack of attention is surprising, since it not only ignores the strategic significance of small firms in today's economic environment but also the substantial differences between small firms and large firms (Caloghirou et al, 2004). Many strategy scholars are calling for more micro processes research into the critical role of leadership, with particular focus on the detailed processes and practices that constitute day-to-day activities of organizational life and relate to strategic outcomes. In other words, there exists a need to delve further into the 'black box' of the organization (Miller and Sardais, 2011; Johnson et al, 2003; Whittington, 2006; Brown and Duguid, 2000). This perspective was echoed in a recent article examining the future viability of the resource-based theory, in which Barney et al, (2011) called for more micro foundation research examining the inter linkages of strategy and other disciplines in order to extend theory and build upon current knowledge.

The focus of this research is an explorative investigation of the micro prospective into the complexities of leadership behaviours and the role of the leader in process reconfiguration as a strategic change outcome. Since dynamic capabilities literature claims to discuss the link between strategic management and high performance, this research uses the dynamic capabilities framework as an intermediate concept to examine the link between leadership and organizational change in sustained high-performing small firms.

1.4 Personal Reflection

Over the past 20 years, I have had the most fortunate opportunity to lead efforts at several universities technical development centers that provide management infrastructure training to small growth companies. Most of these centers were funded

as third party providers under the Department of Defence (DoD) Mentor Protégé Program (MPP). I frequently served as program manager for efforts to provide small defense contracting firms with developmental assistance to foster growth and sustainability. This opportunity has provided me with intimate insight into how these small firms operate and what makes them thrive.

While working with over 200 small firms to establish process improvement initiatives, I observed that certain firms seem to adopt the process improvement initiative more easily than others. Over time, anecdotal reports from these companies also indicate sustained benefits from the process improvement, such as reduced cost due to process streamlining and standardization, improved delivery time, reduced employee training time, early risk identification and mitigation, and improved ability to make informed decisions, thus creating dynamic capabilities (Eisenhardt and Martin, 2000) for long term competitive advantage. On the other hand, other firms seem to struggle with process improvement adoption, and while they may attain certifications of the systems in the short-term, the systems' benefits are not sustained over the long-term. Based on anecdotal evidence, it appears that the main objective of some firms is the attainment of the certifications, which they immediately broadcast in marketing materials and websites or proudly display at their organizations. In other cases, shortly after attaining one process improvement certificate, these firms immediately start pursuing another certification as if the number of certifications a firm possesses differentiates it from another firm. I call these firms 'Certificate Chasers'. It appears that some of these firms are short-sighted and see the advantage in merely obtaining certifications, while other firms plan for the long-term and seek to implement the process improvement processes to develop a dynamic core capability that could lead to sustained competitive advantage. While many factors influence a firm's behaviour when implementing a process reconfiguration system, such as (1) culture, (2) top management commitment, (3) systems knowledge, (4) strategic planning process, (5) training, (6) human resource, and (7) organizational structures (Deming, 2000), it is theorized that that these components are within the sphere of influence surrounding organizational leadership. Leadership behaviour of top management can be a major challenge for small firms that desire to maximize the benefits of implementing process reconfiguration initiatives as a process innovation by capitalizing on a dynamic capability.

1.5 Outline of Thesis

1.5.1 Scope

The primary purpose of this study is to explore the links between leadership behaviour and strategic change in sustained high-performing small firms using inductive theory-building. This research study is conducted around one research question: How does leadership behaviour influence process reconfiguration in sustained high-performing small firms? As such, the research begins by establishing the importance of small firm contribution to overall global economic growth and, thus, the need for more research in the area of small firm performance and sustainability.

Many strategy scholars are calling for more micro processes research and examination of leadership's critical role, with particular focus on the detailed processes and practices that constitute day-to-day activities of organizational life, relate to strategic outcomes, and create a need to delve further into the 'black box' of the organization (Miller and Sardais, 2011; Johnson et al, 2003; Whittington, 2003; Brown and Duguid, 2000).

This study has three objectives: (1) to explore the specific leadership behaviour that contributes to process reconfiguration, (2) to address a gap in the dynamic capabilities literature that says that leadership and learning is important but is vague on specifics and actual practices, and (3) to build a theory explaining the link between leadership behaviour and strategic organizational change.

1.5.2 Methodology

Through the process of inductive theory-building using multiple cross sectional case studies, this research seeks to examine the possible link between leadership (WHO) and leadership behaviour (HOW) as key influences in process reconfiguration. This study examines the phenomena of episodes of change occurring within the context of small firms. For the purposes of this study, *change* is defined as the implementation of a process improvement/innovation initiative within the past five years of high-performing small technology firms purposely selected from the highly competitive, growing federal sector of the U.S. economy. *Technology firms* are defined as knowledge-intensive service firms (e.g., engineering, IT, and consultancy). These firms constitute an ever-increasing share of the business population and add significantly to economic development (Anxo and Storrie, 2001). Such firms have a strong need for continuous minor innovation and reconfiguration, making the leaders'

behaviour very important. *High-performing small firms* are defined as small firms maintaining profitability, increasing revenues, and employee headcount consistently over a five year period. Other noneconomic factors such as recognition by notable industry groups like INC. 1000 listing, and Washington Best performing companies were also used as criteria for high-performing firms.

1.5.3 Chapter Outline

The thesis document is segmented into six chapters. Chapter 1 briefly discusses the significance of the research and provides the reader with background information and other contextual content of the research topic. This chapter also provides a potential outcome of the study and an outline of the thesis document.

The literature review chapter, contained in chapter 2, provides an overview of the relevant literature that informs the exploratory study of the link between leadership behaviour and strategic change in sustained high-performing small firms. The objective of chapter 2 is to identify a list of key theories, concepts, and definitions grounded in the literature that might be relevant to the research question and beneficial as areas of observations. The literature review is organized in three main sections. The first section discusses the discipline of strategic management, particularly as it relates to strategic change and superior high performance in terms of the dynamic capability framework. The second section then explores the theory of organizational learning, focusing on its outcomes in relation to the dynamic capability framework. The third section discusses the development of leadership theory, focusing on transformational leadership and possible links to organizational learning. Chapter 2 concludes with a literature synthesis and identification of the gap in research literature.

Chapter 3 address the research methodology, providing background on the inductive theory building approach and a detailed outline of the research method, including research question and objectives, theoretical framework, protocol development, case selection, data collection and analysis, hypotheses/proposition building, and validation and conclusion. The research ethics for the study are also stated in this chapter.

Chapter 4 contains details regarding data collection, case narratives, and cross case analysis sub-sections. The chapter is segmented according to the narrative of each of the five cases, followed by analysis within each case and cross-case comparative analysis.

As a literature re-evaluation and discussion chapter, chapter 5 includes the research results and presents proposed theories and propositions. In chapter 6, the main conclusions are presented. The utility of the results is assessed, their practical applications are considered, and the contribution of this study to the theoretical and practical knowledge base is emphasized. Chapter 6 also states the limitations of the study and offers recommendations for future research.

Chapter 2 - Literature Review

2.1 Introduction

Chapter 1 introduced the research topic, the exploration of a link between leadership behaviour and change in sustained high-performing small firms, and, in so doing, established the need for more research in the area of small firm strategic management and process improvement in today's rapidly changing environment. The prior chapter also pointed out scholars' increasing demand for a deeper understanding of a micro perspective on strategy. Through inductive theory-building and multiple cross sectional case studies, this research sought to examine how leadership behaviour influences process reconfiguration in sustained high-performing small firms. This study defines episodes of change as an implementation of process innovation described as a reconfiguration initiative – within the past five years at the high-performing small technology firms selected for the study.

This chapter provides an overview of the relevant literature that informs the exploratory study of the link between leadership behaviour and strategic change in sustained high-performing small firms. The objective of this chapter is to broadly critique a list of key theories, concepts, and definitions that might be beneficial and relevant to the research question, how does leadership behaviour influence process reconfiguration in sustained high-performing small firms? The literature review also seeks to inform the research objectives: (1) to explore the specific leadership behaviour that contributes to process reconfiguration, (2) to address a gap in the dynamic capabilities literature that says that leadership and learning is important but is vague on specifics and actual practices, and (3) to build a theory explaining the link between leadership behaviour and strategic organizational change.

The concepts identified from the literature review are used in several ways, consistent with the eight steps of inductive theory building case study process and the research methodology designed for this study (see Figure 3.1). Defining the research question by a possible a priori construct, focusing the research effort by providing better grounding of construct measures, selecting cases by specified population based on theoretical use (not random sampling), and using a specific instrument of protocol ensured that the questions of interest were investigated uniformly in all cases. Furthermore, concepts presented in the literature review were also used for analysing the data; shaping hypotheses by sharpening the construct definition, validity and

measurability; comparing conflicting and similar literature; and reaching closure of final proposed theory (Eisenhardt, 1989).

This chapter is organized into three main sections. The first section discusses the discipline of strategic management, particularly as it relates to the strategic change and the two predominant views explaining high performance: the resource-based view and the dynamic capabilities perspectives. The second section explores the theory of organizational learning, focusing on its outcomes in relation to the dynamic capability framework. The third section discusses the development of leadership theory, focusing on transformational leadership and possible linkages to organizational learning.

2.2 Strategic Management Theory

Like most phenomena involving human actions, strategic management – how and why decisions are made and implemented within an organizational context – is anything but a simple, well-defined field of study. Researchers, theorists, and practitioners hold strongly conflicting views as to what strategy is, how it is formulated and implemented, and what its implications are for the organization. The only thing certain in the study of strategic management is that there are no straightforward definitions, rules, theories, matrices, or models that can be neatly applied across all organizations (De Wit and Meyer, 2010).

While the field of strategic management has traditionally concentrated on the macro-level of organizations, Johnson et al (2003) made a compelling argument that research in strategic management needs to now focus on the detailed processes and practices that constitute the day-to-day activities of organizational life and relate to strategic outcomes. According to Johnson et al (2003:16),

The economic drivers for a micro approach are twofold. First there has been a change in resource markets where economic environment is moving rapidly towards open markets, mobile labour and information abundance. Resources are increasingly tradable and security from market entry and strategic imitation is falling.... In these fluid resources markets, sustainable advantage must lie in micro assets that are hard to discern and awkward to trade. Profit, not just the devil, lies in the detail.

The second driver reflects the shift to a much more 'hypercompetitive' environment in which speed, surprise, and innovation are the winning bases of competitive advantage (Brown and Eisenhardt, 1998), which validates this exploratory research of the link

between leadership practices and strategic change in sustained high performing small firms.

2.2.1 Background

The antecedent of strategic management as an academic discipline can be found in the pioneering work of Taylor (1911) and Fayol (1949), who were among the first to examine the nature of work and industrial organization. In the twentieth century, the scale and scope of organizations grew. Specifically, the Second World War created a need for large-scale industrial and economic organization and demanded strategic planning of production, manpower and technological research. After the war, these same principles were applied to peace-time reconstruction. By the 1950s, the Harvard Business School had begun to teach strategic management, or what was described as 'business policy', emphasizing how senior managers set policy framework and design the most appropriate strategies for a firm (Henderson, 1984).

In their comprehensive review of development theory and research in the field of strategic management, Hoskisson et al (1999) suggested that strategic management has emerged over the past century, drawing on a wide range of academic disciplines, including sociology, psychology, and economics. In general terms, there has been, in their view, a swinging pendulum, with research focusing first on the individual firm and the manager, then on the industry environment, and more recently on the firm again.

Another feature of strategic management as an academic discipline is its tendency to focus on large corporations with relatively little attention to small firms (Caloghirou et al, 2004; McAdam et al, 2010; Mazzarol and Reboud, 2009). Until the 1980s few published studies dealt with small firms and their strategic management problems. In the 1980s and 1990s, greater attention was given to this issue, but empirical research studies continued to be limited (McAdam et al, 2010; Robinson and Pearce, 1984). The focus has remained on formal business planning rather than strategy development and implementation among owner-managers and entrepreneurs (Mazzarol and Reboud, 2009). This lack of attention is surprising, according to Caloghirou et al (2004), since it not only ignores the strategic significance of small firms in today's economic environment but also leaves a huge gap in the understating of the sources of competitive advantages between large firms and small firms. It is precisely this gap in the literature that this study seeks to address by investigating the link between leadership practices and sustained high performance in small firms.

2.2.1.1 Perspectives and Paradoxes of Strategy

According to Whittington (2001), the strategy discipline is finally beginning to emerge from the strait-jacket of orthodoxy, and two key issues currently dividing the field of strategic management are the role of planning versus the emergence in strategic formation and the importance of internal resources relative to external industry position. De Wit and Meyer (1999) further supported these positions by presenting a comprehensive overview of the many theories in what they called paradoxes and perspectives or strategic tensions.

At the cornerstone of the strategy formulation debate is the paradox of deliberate versus emergence. According to Mintzberg and Waters (1984), strategic management cannot be too prescriptive or planned. They suggested that management decision-making frequently takes place in an environment of 'controlled chaos' in which 'emergent strategies' can be just as important (and sometimes more important) than intended or deliberate strategies. For strategy to be purely emergent, they contended, it must materialize as a process of consistent action over time (no consistency means no strategy has actually been present).

As a practitioner working with and observing mostly small firms grapple with operational issues while performing a balancing act of strategic growth, this researcher maintains that in the real world, businesses strategy formulation does not take place at the polarized ends of the deliberate versus emergent debate but, rather, exists as a blend of the two. In small firms, entrepreneur-managers are likely to possess a sense of vision, even if it is only personal ambition, and engage in emergent strategy. Emergent strategies are, by nature, opportunistic, which fits comfortably with entrepreneurial behaviour (Mazzarol and Reboud, 2009).

2.2.1.2 Ten Schools of Strategy

Another perspective on the strategy management literature is the 10-school structure presented by Mintzberg, Ahlstrand, and Lampel (1998). They surveyed the strategic management literature and identified 10 distinct schools of strategy that were further classified into prescriptive (content) or descriptive (process) categories. Each draws from different theoretical foundations and uses different units of analysis, including the manager, the firm, the external environment, or the strategy formulation and implementation process as the principal point of focus. Figure 2.1 shows these 10 schools and how they might fit together.

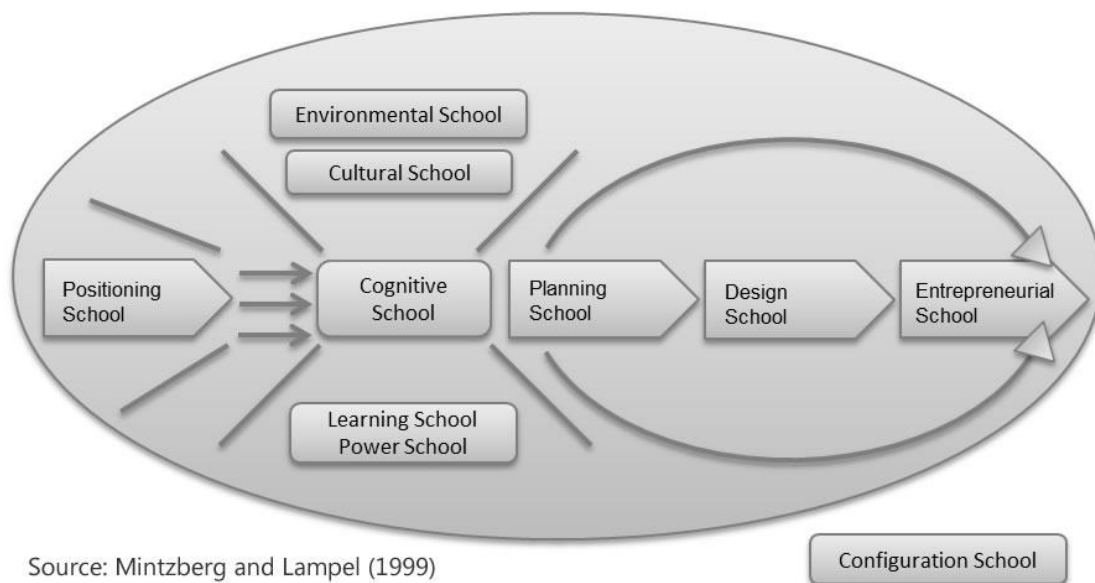


Figure 2.1. Schools of Strategy

The 'positioning school' is a prescriptive approach to strategy that seeks to analyse the external environment, identify market trends, and position the firm to achieve a competitive advantage. One of the best known members of this school is Porter (1979, 1980, 1990), who draws on industrial economic theory to demonstrate the interplay between industry forces that drive competition. The 'cognitive school' is built around the theories of March and Simon (1958) and relates to the psychology of how people conceptualize new ideas, generate mental models, and apply them to action. The 'planning' school, which is prescriptive in nature, seeks to analyse the formal process that managers take to formulate strategy. Ansoff (1965), who is arguably the most influential writer in this school, identified four key components of strategy: (1) the growth vector-relating to product/market expansion, (2) competitive advantage relating to assets or resources needed to ensure the firm's competitiveness, (3) synergy – the complementary fit between the new and existing product/market activities, and (4) strategic flexibility – how firms responds to market needs and changes in technology. The 'design school', also prescriptive in nature, seeks to find a fit between the firm's market opportunities and its resources. Prominent authors in this school are Selznick (1957) and Andrews (1981).

The other schools are all descriptive or process-driven. The 'power school' is focused on how political forces both internal and external to the firm impact the firm's decision-making. The 'cultural school' takes an anthropological view and seeks to

understand strategy as a process of social interaction between firms and individuals or groups within these firms. The 'environmental school' adopts a biological model and looks at how the firm responds and adapts to environmental change. The 'configuration school' takes history as its base discipline and seeks to analyse how the firm changes over time as it follows particular strategies. One of the most prominent theorists in this school is Chandler (1962). The 'entrepreneurial school' is characterised by a single individual who personally controls the firm and imposes his or her vision on its direction (Mintzberg and Waters, 1984).

MacIntosh and MacLean (1999) argued that while the historical division of strategic management discipline into content and process or prescriptive and descriptive approaches is of growing concern to scholars and practitioners of strategy (Schendel, 1992), it is clear that, in many respects, the content and process views of strategy are complementary to each other. They went on to state the following:

If one likens the issue to a journey, the content approach has a clear destination but the means of transportation is indeterminate whereas with the process approach the transport is known and in motion, but the journey is something of a 'mystery tour'. (MacIntosh and MacLean, 1999: 299-300)

Where then does this complex space of strategy management literature lead us? Is there any one school that is better than another? Is the prescriptive approach less dominant than the descriptive? As some strategy scholars have stated (De Wit and Meyer, 2010; Whittington, 2001; Mintzberg et al, 1998), research does not support black and white answers or clear-cut approaches. Strategy must be viewed as a process that integrates all elements of the firm and adopts a flexible, holistic focus. Based on practice and observations this researcher sides with Mintzberg et al (1998), who stated that strategy formation is judgemental designing, intuitive visioning, and emergent learning. It is about transformation as well as perpetuation and must involve individual cognition and social interaction, cooperation as well as conflict. It must include analysing before and programming after as well as negotiating during, all in response to what can be a demanding environment. Strategic management must consider the firm's external environment and the opportunities and threats that emerge within the markets. It must also realistically consider the internal resources, capabilities, strengths, and weaknesses of the firm (Porter, 1979, 1980, 1981), while simultaneously identifying market opportunities and matching corporate resources to follow them (Mintzberg and Waters, 1984). Also of importance is the ability of the

firm's management to make appropriate choices among strategic options (Mintzberg, 1994). It is within this complex context that the current research seeks to cast new light on the influence of leadership practice on organizational learning as a component of the complex ecosystem of the firm's strategic options.

2.2.2 Resource-Based View

How a firm develops and sustains a competitive advantage over its industry rivals is a central issue for the field of strategic management. In recent years, two strategic management approaches – the resource-based view (RBV) and the dynamic capabilities theory (DCT) – have been advanced as the key to earning sustained, favourable economic returns. These two approaches focus on the internal organization of firms and, as such, complement the traditional content or prescriptive schools that emphasise positioning within the structure as the determinants of competitive advantage (Henderson and Cockburn, 1994; Porter, 1979).

The RBV of the firm postulates that a firm earns a competitive advantage over its market rivals by controlling and utilizing a unique set of resources (Rolland, Patterson, and Ward, 2009). Several scholars (Barney, 1991; Conner and Prahalad, 1996) have suggested that a sustainable competitive advantage requires that a firm's resources must be (1) valuable (by lowering cost or adding value), (2) rare (not available to competitors), (3) imperfectly imitable (difficult for competition to copy), and (4) strategically equivalent substitutes. Barney (1991: 101) defined *resources* as 'all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness'. Most scholars have accepted Barney's definition as a satisfactory list of firm resources (Priem and Butler, 2001).

Nevertheless, many scholars have criticized RBV on several issues. Priem and Butler (2001) noted that most work examining RBV is theoretical. Levitas and Ndofo (2006) questioned whether any RBV empirical study can claim construct validity. Eisenhardt and Martin (2000) suggested RBV is tautological if the primary method of discovering firms with resource endowments able to create performance differentials is based on first uncovering high performance firms and then identifying the unique resources that created that performance. RBV has also been criticized as being 'static' and, therefore, limited in its ability to explain how firms maintain competitive advantage in highly dynamic environments (Cavusgil et al, 2007). However, 20 years

after the initial introduction of RBV, the resource-based theory is widely acknowledged as one of the most prominent, powerful theories for describing, explaining, and predicting organizational relationships (Barney et al, 2011).

2.2.3 Dynamic Capabilities Framework

Wang and Ahmed (2007) suggested that the dynamic capabilities theory (DCT) was developed due to the perceived weakness of RBV's explanation of certain firms' competitive advantage in situations of rapid and unpredictable change. The original definition of *dynamic capabilities* referred to 'the firm's ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments' (Teece et al, 1997: 516). This definition was later refined and expanded by Eisenhardt and Martin (2000) to include organizational and strategic routines by which a firm achieves new resource configurations as markets emerge, collide, split, evolve, and die. While basic capability allows the firm to utilize multiple resources to produce a result (Amit and Schoemaker, 1993), a dynamic capability allows the modification of these basic capabilities to adapt to rapid market changes (Cepeda and Vera, 2007). Examples of dynamic capabilities includes creation of new products and services, alliance formation and strategic decision-making, resource allocation routines, and knowledge creation routines whereby managers and others build new thinking within the firm, a particularly crucial dynamic capability in industries where cutting edge knowledge is essential for effective strategy (Eisenhardt and Martin, 2000). The definition of *dynamic capabilities* used in this research is the capacity of a firm to purposefully search, seize and reconfigure its resource base so as to create and respond to changing technologies, competition, and market changes (Teece, 2009).

The DCT, like the RBV, is also subject to criticism. Wang and Ahmed (2007) noted that, to date, most DCT studies focus on a single industry and, therefore, need data showing commonalities across industries. Another criticism is the lack of a universally agreed-upon definition of *dynamic capability*. Although the definition of using competencies within and external to the firm to adapt to a changing environment (Teece et al, 1997) is commonly cited, Cepeda and Vera (2007) stated that the lack of a universally agreed-upon definition has led to some confusion in the field. Lastly, adherents of the RBV argue that a 'dynamic' capability is simply a variation of the capabilities described in the RBV strategic view; therefore, the DCT is not a standalone theory (Barney et al, 2011).

The theory of dynamic capability is still very elusive and mysterious regarding why certain capabilities take on the 'dynamic' nature (achieving evolutionary fitness, not just adapting but shaping the environment), while other capabilities are 'static' (rigid and inflexible). Two distinctive framings have evolved in the dynamic capabilities literature. Eisenhardt and Martin (2000) maintained an organizational theorist perspective. While those with an economist underpinning (Teece et al, 1997; Helfat and Peteraf, 2009; Helfat, 1997, 2000) originally argued the view of dynamic capabilities as the source of high performance, they now identify dynamic managerial capabilities as a main factor in influencing change, deemphasizing high performance while signifying that dynamic capabilities are important for improving technical and evolutionary fitness. This study seeks to build upon the dynamic capability framework as presented by Teece (2009), Teece and Shuen (1990), and Teece and Pisano (1994, 2007), who claimed that sustainable advantage is more likely to flow from situations where firms with the ability of sensing, seizing, and reconfiguring will more likely build and maintain competitive advantages. The essence of dynamic capabilities, according to Teece, is the skills, processes, routines, organizational structures, and disciplines that enable firms to build, employ and orchestrate intangible assets relevant to satisfying customer needs and cannot be readily replicated by competitors. Teece went on to state that enterprises with strong dynamic capabilities are intensely entrepreneurial. Teece's (2009) dynamic capabilities framework argues that the entrepreneur/manager function in the dynamic capabilities framework introduces novelty and seeks new combinations and endeavours to promote and shape learning. Teece went on to state that the leadership function senses new opportunities and leads the organization forward to seize them. These roles are not recognized by economic theory but are the essence of dynamic capabilities, or what Teece (2009) called 'entrepreneurial fitness'. To achieve entrepreneurial fitness, Teece (2009: 59) further argued that 'management must be entrepreneurial, sensing if not creating new opportunities before others do, and executing swiftly and expertly and collaboratively where the situation allows and requires it'. They not only adapt to business ecosystems but also shape them through innovation, collaboration, learning, and involvement. Dynamic managerial capabilities are those with which managers build, integrate, and reconfigure organizational resources and competences (Adner and Helfat, 2003).

Given that Teece's (2009) dynamic capabilities framework claims management actions and learning plays a key part in creating competitive advantages and thus superior performance, and given that the researcher believes, that leadership is important in creating competitive advantages within organizations, the dynamic capabilities framework is used as a theoretical lens for this study of leadership behaviour and strategic change in sustained high-performing small firms.

This continual learning criterion of a dynamic capability is similar to the emerging theory of the 'learning organization' in the organizational behaviour discipline. Senge (1990) noted that in an increasingly dynamic, interdependent, unpredictable world, it is no longer possible for anyone to 'figure it all out at the top'. Senge warned that the old model, 'the top thinks and the local acts', must now give way to integrative thinking and acting at all levels. However, in examining the effects of a firm's resources on competitive advantage, Ray, Barney, and Muhanna (2003: 26) argued,

While these resources may retain the potential for generating competitive advantage for some period of time, that potential can be realized only if used in business processes, for it is through business processes that a firm's resources and capabilities get exposed to the market, where their value can be recognized.

In a recent review of the evolution of resource-based theory, Barney et al (2011) offered their thoughts about key opportunities to further revitalize and extend research. Among five themes for further research, they pointed out that the past decade has seen the emergence of efforts to establish the micro-foundation for resource-based theory as part of a wider agenda to examine the micro-foundations of strategic management. Analysis is needed within firm boundaries of the internal processes of managing resources (Kraaijenbrink, Spencer, and Groen, 2010). Foss (2011) addressed micro-foundations in the context of knowledge-based value creation, a key theme in RBT.

This research seeks to add to the micro-foundation exploration of strategic management from the resource-based review by examining Teece's framework of the psychological underpinning of dynamic capabilities. The essence of dynamic capabilities, according to Teece (2009), is the skills, processes, routines, organizational structures, and disciplines that enable firms to sense and seize opportunities and reconfigure resources to satisfy customer needs. Using the dynamic

capabilities framework as a theoretical lens for this research implies that observing leadership actions during an episode of organizational change where resource reconfiguration is taking place in high-performing firms would provide a construct measure or 'unit of analysis' of the research phenomena.

2.2.5 Summary

This section examined the background of strategic management as an academic discipline and presented Mintzberg et al's (1998) construct of the 10 main schools of strategy within the prescriptive or content approach and the descriptive or process approach. While some scholars (Schendel, 1992) are concerned with the content versus process approach to strategy, others (MacIntosh and MacLean, 1999) have argued that the content and process views of strategy are complementary if taken as a set. This holistic view of strategic management was also supported by Mintzberg (1994), who stated that strategic management is a process involving both formulation and implementation of strategies. Strategic management must consider the firm's external environment and the opportunities and threats that emerge within the markets. Strategy must also consider the internal resources and capabilities of the firm and realistically assess the organization's strengths and weaknesses. Identifying market opportunities and matching corporate resources becomes a key strategic function. Also important is the ability of the firm's management to make appropriate choices among strategic options.

In recent years, two strategic management theories – the resource-based view (RBV) and the concept of dynamic capabilities (DC) – have been advanced as key to developing competitive advantages. Theoretical development of DC represents an extension in RBV thinking that attempts to explain why and how some firms achieve and sustain competitive advantage in situations of rapid and unpredictable change. This perspective holds that DC are a set of specific and identifiable processes and abilities to improve business core processes involving the integration of core operational processes and organizational strategic goals (Eisenhardt and Martin, 2000). Teece (2007, 2009) argued that 'entrepreneurial fitness', or the role of the entrepreneur/manager, is the essence of dynamic capabilities and is critical to the theory of strategic management. While Teece (2007, 2009) introduced the concept of entrepreneurial fitness, he was evasive regarding how entrepreneurial fitness would occur within the dynamic capabilities framework. The DC literature is still vague regarding what creates the 'dynamic' versus 'static' capability. This research seeks to

propose that 'dynamic' capability is heavily dependent on leadership practices that influence the processes to sense opportunities, seize opportunities, and reconfigure resources or to what Teece refers to as "Entrepreneurial Fitness".

2.3 Organizational Learning

The topic of organizational learning has received much attention in the fields of organizational management and strategic management. *Organizational learning* is generally defined in terms of such distinct processes as 'individual change' and 'sustainable competitive advantage' (de Geus, 1988; Simon, 1991; Weick, 1991). In 1978, Argyris and Schon initiated the inquiry of organizational learning in their seminal work in which they posited that, compared to morale, satisfaction, and loyalty, learning and competence provide the foundation for organizations to improve their core competencies and further sustain competitive advantage.

Although the terms *organizational learning* and *learning organization* are used somewhat interchangeably in the literature, they are different concepts (Hung et al, 2010). Preskill and Torres (1999) noted that the term *learning organization* focuses on the systems, principles, and characteristics of an organization that learns as a collective entity, while *organizational learning* focuses on the actual process that occurs. *Learning organization* generally describes specific characteristics of an ideal organization, while *organizational learning* describes processes or activities related to organizational change.

In their work on 'conditioned emergence' strategy, Macintosh and MacLean (1999) noted that in the strategic management literature, the RBV has increasingly focused on the importance of intelligence and an organization's capacity to improve existing skills and learn new ones, which offers the most defensible competitive advantage of all for a firm (Penrose, 1959; Prahalad and Hamel, 1990). They further pointed out that Barney (1986) focused specifically on tacit knowledge as the key feature of an organization's competitive advantage and that a substantial difference exists between acknowledging the importance of learning processes and putting theory into practice. They emphasized this point by referencing an interview in *Training and Development* (1994) in which Wheatley asked how many employees today would risk reading even a work-related book during business hours.

Zollo and Winter (2002) argued that dynamic capabilities are shaped by the co-evolution of learning mechanisms and the adoption of operational routines. They addressed the roles of (1) experience accumulation, (2) knowledge articulation, and

(3) knowledge codification in the evolution of dynamic capabilities as well as operational routines. Other recent research supports the idea that organizational learning is a basis for gaining a sustainable competitive advantage and a key variable in enhancing organizational performance. Firms that are able to learn stand a better chance of sensing events and trends in the marketplace (Day, 1994; Sinkula, 1994; Tippins and Sohi, 2003). As a consequence, learning organizations are usually more flexible and faster to respond to new challenges than are their competitors (Day, 1994; Slater and Narver, 1995), which then enables learning organizations to maintain long-term competitive advantages (Dickson, 1996).

The literature on organizational learning has grown exponentially in recent years (Bontis et al, 2002; Nonaka and Takeuchi, 1995; Senge, 1990; Slater and Narver, 1995; Watkins and Marsick, 1993, 1996). *Organizational learning* is the process by which firms develop new knowledge and insight about markets, products, technologies, and business processes. This process is based on experiences, experimentation, and information provided by customers, suppliers, competitors, and other sources and has the potential to influence behaviours and improve the firm's capabilities (Fiol and Lyles, 1985; Huber, 1991; Senge, 1990; Slater and Narver, 1995). Various approaches can be used to assess the definition of a learning organization. Some are based on a systems perspective (Senge, 1990), while others are based on a learning perspective (Elkjaer, 1999; Finger and Brand, 1999; Watkins and Marsick, 1993) or a strategic perspective (Garvin, 1993; Goh, 1998).

Argyris and Schon (1978) argued that organizations learn through acting as agents and defined *organizational learning* as error detection and correction. To avoid possible conceptual confusion, the definition of *organizational learning* adopted for this study is from Watkins and Marsick (1996: 4): 'one that learns continuously and transforms itself...Learning is a continuous, strategically used process – integrated with and running parallel to work'. Watkins and Marsick also presented a theoretical framework of seven complementary action imperatives that characterize an organization's journey of organizational learning:

1. Create continuous learning opportunities
2. Promote inquiry and dialogue
3. Encourage collaboration and team learning
4. Establish systems to capture and share learning
5. Empower people toward a collective vision

6. Connect the organization to its environment
7. Use leaders who model and support learning at the individual, team and organizational levels

Organizational learning is a dynamic process of creating, acquiring, and integrating knowledge to develop resources and capabilities that contribute to better organizational effectiveness (Argyris and Schon, 1978; Gilley and Maycunich, 2000; Lopez et al, 2006). As a pioneer of organizational learning, Argyris (1992) introduced the typology of learning termed 'single loop learning', which is the process of responding to internal and external changes by detecting errors and correcting them as planned action or refining a routine to solve an error. In 'double loop learning', organizational inquiry resolves incompatible requirements by creating new understandings of the conflicting requirements. If a plan is not accomplished, the reasons are found (root cause) and corrected, perhaps in the form a new routine.

2.3.1 Organizational Learning and Performance

Jimenez-Jimenez and Sanz-Valle (2011) noted that numerous studies have provided evidence of a positive relationship between a learning organization and firm performance, but very few studies have focused on the process of organizational learning. Baker and Sinkula (1999) found that a learning organization has a direct effect on organizational performance. Other studies, which also used culture as a measure of learning, found similar results (Keskin, 2006; Ussahawanitchakit, 2008). Bontis et al (2002) provided evidence of a positive relationship between organizational learning and performance but focused learning at three levels: individual, group, and organization. Tippins and Sohi (2003) showed that the five stages they distinguished within the organizational learning process (information acquisition, information dissemination, shared interpretation, declarative memory and procedural memory) have a positive effect on firm performance. Darroch and McNaughton (2003) provided evidence that the whole process of organizational learning produces better performance. These results were further advanced by Zheng, Yang, and MacLean (2010), who found that knowledge management mediates the relationship between organizational culture, structure, strategy, and organizational effectiveness.

Building on Teece et al's (1997) dynamic capability perspective, Hung et al (2010) suggested that organizational learning culture positively affects performance for individuals and teams across organizational structures, and other researchers have

concurrent (Egan, Yang, and Barlett, 2004; Ellinger et al, 2002; Yang, Watkins, and Marsick, 2004). Based on the RBV perspective, Wilkens, Menzel, and Pawlowsky (2004) maintained that organizational learning culture is both a resource and a dynamic capability for a firm. Organizational learning culture does not directly influence organizational performance; rather, it enhances dynamic capability with accumulated knowledge and innovation (Hung et al, 2010). Many scholars now hold an indirect effect view of organizational culture on performance (Siehl and Martin, 1990; Wilderom et al, 2000).

2.3.2 Summary

In summary, empirical findings are consistent with theory and provide evidence that supports linking learning mechanisms to the evolution of dynamic capabilities (Zollo and Winter, 2002) and organizational learning as a basis for gaining a sustainable competitive advantage and positively impacting a firm's performance (Day, 1994; Sinkula, 1994; Tippins and Sohi, 2003; Darroch and McNaughton 2003; Zheng, Yang, and MacLean, 2010). Based on the RBV perspective, Wilkens et al (2004) maintained that organizational learning culture is both a resource and a dynamic capability for a firm. It does not directly influence organizational performance but exerts its influence through enhancing dynamic capability with accumulated knowledge and innovation (Hung et al, 2010). While recent years have yielded an increase in research investigating the effects of organizational learning on performance, more research is needed, particularly since some of the research is not conclusive and samples and measures for both organizational learning and performance are very different (Jimenez-Jimenez and Sanz-Valle, 2011). Zollo and Winter (2002) called for more empirical inquiry into the role that the articulation and codification processes play in creating dynamic capabilities. They argued that too much of the theoretical understanding of organizations and competitive processes has been framed by economics or by the more realistic but still distorted versions of bounded rationality favoured in behavioural tradition. Organizational learning scholars often focus on different forms of learning without explaining who initiates such processes (Gibson and Birkinshaw, 2004; March, 1991; Rosenkopf and Nerkar, 2001). Based on the prior discussion of the relevant organizational learning literature, observational evidence of organizational learning may play a role in the outcome of episodes of change, innovation, or reconfiguration.

2.4 Leadership Behavior Theory

2.4.1 Definition

The empirical research on leadership has taken basically three major perspectives: leader traits, leader behaviours, and the influence of situational characteristics on leaders' effectiveness. The literature offers a variety of viewpoints on the competencies, skills, values, and behaviours necessary for effective leadership. Crawford, Brungardt, and Maughan (2000) noted that, historically, it was thought that various personal traits enhanced a person's ability to lead. What Bass (1990) called the 'Great Man Theory' serves as an example of this type of thinking.

Stogdill (1950: 50) defined *leadership* as 'a process (act) of influencing the activities of an organized group in its efforts toward goal achievement'. Stogdill believed that leaders are born with certain genes that give them the traits necessary to lead. Ultimately, this approach expanded to include a set of skills or learned behaviours (e.g., physical characteristics, social background, intelligence, ability, personality, task related abilities and social characteristics) that combine to make effective leaders (Sun and Anderson, 2011).

Several specific schools of thought exist in the field. Researchers from leader traits school of thought, such as Yukl (2002), have defined *leadership* in terms of individual traits, leadership behaviour, interaction patterns, role relationships, follower perceptions, influence over followers, influence on task goals, and influence on organizational culture. Researchers from the behaviourist school, such as Northouse (2009), have defined *leadership* as the behaviour of individuals when directing the activities of a group toward a shared goal.

Leadership is also understood as a process of influencing the activities of an organized group toward achievement. The influencing process is explained by the leader's dispositional characteristics and behaviours, followers' perceptions, and the context in which the influencing process occurs (Antonakis et al, 2003; Sumner, Brock, and Giamartino, 2006). Vroom and Jago (2007) and Antonakis et al (2003) suggested that most definitions of *leadership* share the common process of influence. However, according to Antonakis et al, leadership is easy to identify in situations but difficult to define precisely. Considering that leadership is increasingly concerned with influencing others, Kakabadse-Korac and Kakabadse-Korac (1997) argued that a leader's (in)effectiveness has a direct bearing on the strategic direction and success of

the organization. Given the complex nature of leadership, a specific and widely accepted definition does not exist and may never be found.

Based on the discussion of leadership in the prior literature review, the researcher limited this study to the behavioural perspective of leadership practices and actions that may contribute to the reconfiguration process during an episode of organizational change. For this study's purposes, *leadership* is defined as a process of interpersonal influence in a situation that is directed, through the communication process between the leader and followers, toward attainment of a specified goal or outcome (Antonakis et al, 2003).

Strategy literature offers an array of paradoxical ideas on the role of top management. According to Whittington (2001), both classicists and systemicists are convinced that what top managers think and do really matters in strategy formulation and implementation; however, processualists believe a gap exists between strategic decision and action (Cohen, March, and Olsen, 1972). Whittington (2001) went on to point out that it is easy to exaggerate the significance of top management and to ignore the less advertised influence of middle management or the actions of the followers/doers who actually implement the strategy and bring about change in the organization.

The lack of agreement on the overarching definition and role of leadership makes it difficult to apply further theoretical development and quantitative or qualitative tests to the effectiveness of leadership style and behaviour in relation to organizational outcomes such as organizational performance. Very few studies have been conducted in the context of the small firm where, due to size and limited resources, leadership practices are assumed to have an even greater impact on firm performance (Mazzarol and Reboud, 2009). In a study of industry versus firm-specific effects on performance contrasting Greek manufacturing SMEs and large firms, Caloghirou et al (2004) found that SMEs' competitive advantage relies mainly on superior financial assets and quick adaptation to changing market circumstances. While Caloghirou et al found that coordination and organizational learning were not a base for competitive advantage, this researcher speculates that in the case of knowledge-intensive SME firms, such as information technology firms, organizational learning is a source of competitive advantage, and leadership practices are a key influence on the creation of organizational learning. This study seeks to investigate this gap in the literature and shed some light on the influence of leadership

behaviour on process reconfiguration in sustained high-performing small firms, where leadership practices are assumed to have an even greater impact on process change. However North and Smallbone (2006) noted that while innovation or reconfiguration is often associated with high technology and radical products, the reality for the majority of small firms is more modest. In most small firms, innovation is an incremental process involving adjustments to existing products or services.

2.4.2 Leadership Theory and Organizational Learning

Although numerous scholars have suggested that leaders play an important role in building learning organizations (Senge, 1990; Slater and Narver, 1995; Watkins and Marsick, 1993, 1996), their conceptions and descriptions of these roles differ. It has been acknowledged that leaders assume roles as teachers (Ellinger et al, 1990; Senge, 1990), coaches (Edmondson, 2003), educators (Antonioni, 1994), and facilitators (Vera and Crossan, 2004).

Although the notion of learning in learning organizations has received considerable attention, the teaching component has been largely ignored (Berson et al, 2006). Theorists have given scant attention to the dramatically altered role of leaders in transformed corporations (Waldman et al, 2004). Berson et al (2006: 59) contend that 'to date, there has been far more "thought papers" on why learning matters than on empirical research on how leaders can build learning capability'. Because leaders are being challenged to assume roles as coaches and facilitators of learning in organizations that aspire to become learning organizations, research is needed that specifically investigates the processes and practices surrounding how leaders facilitate learning and build learning organizations.

2.4.3 Leadership Styles

The concentration of transformational leadership characteristics formed the basis for 21st century theoretical leadership studies. The concepts of transformational and transactional leadership were introduced by Burns (1978) and applied to organizational management by Bass (1985). Whereas transactional leaders influence followers by setting goals, clarifying desired outcomes, and providing feedback and rewards, transformational leaders motivate followers by creating visions for the future of the organization and supporting performance that goes beyond expectations (Burns, 1978; Bass 1985; Conger and Kanungo, 1988; House, 1977; Yukl and Howell, 1999).

2.4.3.1 Transformational Leadership Style

Bass et al (2003) reported that transformational leadership characteristics include the following concepts: (1) idealized influence in which followers appreciate and trust leaders who show concern for their well-being and create a lasting relationship of mutual respect and camaraderie; (2) inspirational motivation in which leaders' actions motivate and challenge followers, create *esprit de corps*, and foster a positive view of the future; (3) intellectual stimulation in which followers are nurtured in an environment that fosters creativity and innovation; and (4) individualized consideration in which followers feel the leader genuinely cares, mentors, and coaches individuals to succeed and grow.

2.4.3.2 Transactional Leadership Style

Transactional leadership is a leader-subordinate exchange, beginning with a process of negotiation to establish what is being exchanged or whether the exchange is satisfactory (Howell and Avolio, 1993). According to Bass (1998), the effectiveness of transactional leadership depends on the leader's power to reinforce subordinates' successful completion of a transaction. Bass distinguished between two types of transactional leadership: contingent reward and management-by-exception.

According to Birnbaum (1999), several major differences exist between transformation and transactional leadership. Transformational leadership emphasises the potential of leaders, looks for major changes in policy direction, and captures the imagination of its followers. On the other hand, transactional leadership notes the potential influence of followers. It tends to be more ordinary in nature and less dramatic.

Hart and Quinn (1993) noted that to be effective, leaders need to be visionary motivators who can direct a team toward new innovation. Small firm survival depends on quick analysis, planning, and creation of products or services to revolutionise the marketplace. Such an environment requires transformational leadership (Visser, Coning, and Smit, 2005). Matzler et al (2008) noted that transformational leadership characteristics influence employees to create and innovate, which, in turn, allows organizations to compete and survive in a hostile marketplace. With limited resources, small firm leaders rely on employees to innovate and sustain growth, and transformational leadership characteristics create an organizational culture conducive for employees to reach their potential in contributing to the company's success (Matzler et al, 2008; Visser et al, 2005).

2.4.3.3 Antecedents of Transformational Leadership

Empirical studies have found that the effects of transformational leadership are related to the organization type (Bass, 1985) and to the leader's hierarchical position (Bass et al, 1987). In a meta-analytic review of the Multifactor Leadership Questionnaire (MLQ) literature, Lowe, Kroek, and Sivasubramaniam (1996) found that transformational leadership is more effective in public organizations than in private ones and more effective for lower-level leaders than for higher-level. These somewhat unexpected results elicited more investigation of the impact of other contextual factors on the effectiveness of transformational leadership (Lowe et al, 1996). Research on interpersonal antecedents of transformational leadership has focused on the leader-follower relationship. Howell and Shamir (2005) posited that followers' acceptance, approval, respect, and cooperation are likely to empower the leader, which, in turn, motivates the leader to engage in charismatic behaviours.

As an independent variable, transformational leadership has been argued to represent the most effective form of leadership (Rubin et al, 2005) and to be positively associated with desirable outcomes at the individual, group, and organizational levels (Lowe et al, 1996; Dvir et al, 2002; Agle et al, 2006; Herold et al, 2008; Caldwell et al, 2009). Compared to transactional and laissez-faire leadership, Judge and Piccolo (2004) found that transformational leadership is an effective predictor of individual outcomes, such as positive attitudes, motivation, and performance, and has a stronger effect on attitudes and motivation than on performance. Piccolo and Colquitt (2006) developed and tested a model in which the effects of transformational leadership were mediated by followers' perceptions of core job characteristics (i.e., variety, identity, significance, feedback and autonomy). They found that leaders who are seen as transformational motivated followers to see their jobs as more challenging and meaningful, which led to higher task performance and more organizational citizenship behaviours. Nemanich and Keller (2007:53) found support for the mediating role of what they called 'climate of creative thinking' on the relationship between transformational leadership and followers' acceptance of an acquisition.

2.4.3.4 Summary Leadership Styles

In summary, transformational leadership theory is well developed and has been studied extensively, and research has identified a number of antecedents and consequences related to the emergences and effects of transformational leadership.

Transformational leadership has also been found to be effective during organizational change (Nemanich and Keller, 2007; Herold et al, 2008; Caldwell et al, 2009). Research to date has not thoroughly studied leaders' behaviour in terms of a particular change and has not linked attributes of transformational leadership to the organizational learning implementation process. The transformational leadership literature seems to have assumed that a transformational leader will exert relevant leadership behaviour in any change situation, which, in turn, will lead to successful implementation. There exists a significant gap in understanding the interactive effects of transformational leadership on organizational performance. This research seeks to examine the link between leadership practices and strategic change through the construct of the dynamic capability framework. This goal is accomplished through cross sectional multiple case study analysis of high-performing firms who are experiencing or have recently experienced episodes of process reconfiguration.

2.4.4 Summary

Although a rich body of research exists regarding the links between leadership theory and organizational learning, a need remains for further empirical studies, particularly in the context of small firms. What leaders do, how they spend their time, and how they allocate resources play significant roles in shaping firms' potential to generate competitive advantages by encouraging an appropriate environment and decisions that promote successful generation and implementation of knowledge to facilitate organizational learning (Hung et al, 2010; Aragon-Correa et al, 2007; Berson et al, 2006; Day, 1994). Many scholars have asserted a direct relationship between leadership and organizational learning (Aragon-Correa et al, 2007; Senge, 1990, 1992). The field has occasionally generated some new models, but the effectiveness of these models has rarely been empirically investigated.

In addition, failure to link the strategy literature, mainly the resource-based school of dynamic capability, with the mainstream organizational behaviour literature has created gaps in both bodies of literature. To understand the phenomenon of organizational change through strategic management more fully, the literature seems to imply that scholars and practitioners need to enlarge the scope of exploration and take different leadership approaches and contingencies into consideration. This research seeks to address this issue by investigating whether leadership style plays a role in the outcome of an organizational change episode of process reconfiguration.

2.5 Synthesis

The preceding sections reviewed relevant, current literature on strategic management decisions and leadership theory. Strongly conflicting views exist among researchers, theorists, and practitioners regarding the role of leadership in strategy outcomes and the influence of leadership actions on the outcome of strategic change in the organization. The purpose of this section is to synthesize those strands of the literature that support the development of the research question: How does leadership behaviour influence process reconfiguration in high-performing small firms? The literature review points this research in the direction of the dynamic capability framework.

Two distinctive framings have evolved in the dynamic capabilities literature. Eisenhardt and Martin (2000) maintained an organizational theorist perspective. While those with an economist underpinning (Teece et al, 1997; Helfat and Peteraf, 2009; Helfat, 1997, 2000) originally argued the view of dynamic capabilities as the source of high performance, they now identify dynamic managerial capabilities as a main factor in influencing change, deemphasizing high performance while signifying that dynamic capabilities are important for improving technical and evolutionary fitness. It appears as if they completely dropped Teece's (2009) concept of entrepreneurial fitness. Helfat (2007) and others have pointed to dynamic managerial capabilities as the source of dynamic capabilities. This research takes a finer look at dynamic managerial capabilities, specifically leadership, which is a subset of management. The literature indicates that leadership and learning are two key factors in developing dynamic capabilities but is vague regarding why and how these two areas influence change. The literature also seems to indicate that a strong relationship may exist among the behaviour of transformational leaders, transactional leaders, and organizational learning.

While innovation or reconfiguration is often associated with high technology and radical products, the reality for the majority of small firms is more modest. In most small firms, innovation is an incremental process involving adjustments to existing products or services (North and Smallbone, 2006). As a result of the literature review, this research uses the dynamics capabilities framework as a construct to explore leadership behaviour and strategic change during episodes of change defined

as a reconfiguration of a process innovation. The literature implies that learning practices also play a role in leadership and dynamic capabilities.

2.6 Gap in Research Literature

As previously discussed, this research seeks to build upon the dynamic capability framework as presented by Teece (2009), Teece and Shuen (1990), Teece and Pisano (1994), and Teece et al (1997), who postulated that sustainable advantage is more likely to flow from situations in which firms can create and protect intangible assets that can undergird competitive advantage. The essence of dynamic capabilities, according to Teece, is the skills, processes, routines, organizational structures, and disciplines that enable firms to build, employ, and orchestrate intangible assets relevant to satisfying customer needs and that competitors cannot readily replicate. Teece went on to state that enterprises with strong dynamic capabilities are intensely entrepreneurial. They not only adapt to business ecosystems, but they also shape them through innovation, collaboration, learning, and involvement. Augier and Teece (2009: 418) pointed out that 'the dynamic capabilities framework invites further research into entrepreneurship, organizational learning, and the role of managers and leaders in enterprise performance'.

This continual learning criterion of a dynamic capability is similar to the theory of the 'learning organization' emerging from the organizational behaviour discipline. Senge (1990: 136) noted that in an increasingly dynamic, interdependent, unpredictable world, it is no longer possible for anyone to 'figure it all out at the top'. Senge warned that the old model, 'the top thinks and the local acts', must now give way to integrative thinking and acting at all levels. While the dynamic capability literature is still vague about what creates 'dynamic' capability as opposed to 'static' capability, this research seeks to extend the literature and practise by proposing that the elements of dynamic capability (sensing, seizing, and reconfiguration of resources), as in the case of process reconfiguration, depend heavily on leadership practices.

Transformational leadership theory is well developed and has been studied extensively, and research has identified a number of antecedents and consequences related to its emergences and effects. Transformational leadership has also been found to be effective during organizational change (Nemanich and Keller, 2007; Herold et al, 2008; Caldwell et al, 2009). Research to date has neither thoroughly studied leaders' behaviour in terms of a particular change nor linked attributes of

transformational leadership to the strategic change implementation process. The transformational leadership literature seems to have taken for granted that a transformational leader will exert relevant leadership behaviour in any change situation, which, in turn, will lead to successful implementation. A significant gap exists in understanding the relationship between situational-specific change leadership, the effects of transformational leadership, and their interactive effects on the strategic change implementation process. Thus, this study is necessary to investigate how transformational leadership styles of entrepreneur-managers influence the outcome of process reconfiguration in sustained high-performing small firms.

This research combines Helfat's broad thrust of dynamic managerial capabilities with Teece's original hunch of entrepreneurial fitness as a major element of the dynamic capabilities framework. This research examines the entrepreneurial concept by looking at small firms that are clearly entrepreneurial and have sustained high performance. This research seeks to shed new light on the dynamic capability theoretical framework by examining the role of transformational and transactional leadership styles as determinants during a process of change in the organization using process reconfiguration as the dependable capability. The literature review implies that organizational learning is somehow influenced by leadership behaviour and impacts the shaping of dynamic capabilities. This study explores the possible links between leadership behaviour and strategic change and, hopefully, sheds light on the added dimension of organizational learning and entrepreneurial fitness.

Chapter 3 – Research Approach, Framework, Design and Methodology

3.1 Introduction

The previous chapter presented an overview of the relevant literature that informs the exploratory study of the possible missing link of leadership behaviour and learning on strategic change in sustained high-performing small firms. The literature review showed that there have been repeated calls for more research and better understanding of the micro foundation factors of strategic management and the links between disciplines such as leadership and learning. While the dynamic capability framework strongly suggests the importance of these two factors, it fails to link them and is vague regarding the role of leadership and actual learning practices, suggesting a deficiency in supporting theory.

The research design is formulated to address the research objectives: (1) to explore the specific leadership behaviour that contributes to process reconfiguration, (2) to address a gap in the dynamic capabilities literature that says that leadership and learning is important but is vague on specifics and actual practices, and (3) to build a theory explaining the link between leadership behaviour and strategic organizational change. And to answer the research question: how does leadership behaviour influence process reconfiguration in sustained high-performing small firms? Given that the objective of this research is to gain a deeper and richer understanding of the links between leadership behaviour and strategic change, a phenomenological research paradigm of a qualitative, inductive theory-building case study approach was chosen. This research approach is especially appropriate in new topic areas (Eisenhardt, 1989).

This chapter begins with a discussion of the philosophical approach to theory-building taken in this research and a discussion of the unit of analysis. These discussions are followed by the definition of the research framework, including the research question, case selection, research design, and methodology by which field observations were collected, analysed, and transformed into elements of theory. Throughout the development of research design, the central theme is the avoidance of threats to validity, which is always a concern in the social sciences (Eisenhardt, 1989).

3.2 Theory-building

The present research is directed toward theory-building, placing it in what Hunt (1991) called the context of discovery. Within that context, Hunt offered two choices for purposeful and systematic efforts at discovery: deductive and inductive methods. In the deductive mode, the researcher works from the general to the specific, and a relationship is proposed that is assumed to apply generally. The consequences of that relationship in a particular situation are then deducted to arrive at a prediction (hypothesis) that can be tested. The inductive researcher works in the opposite direction. Specific observations are collected, classified, and analyzed to yield a consistent relationship that is believed to apply with some generality. The deductive approach states propositions in order to derive hypotheses that can be tested, while the inductive approach observes outcomes that would verify potential hypotheses in order to arrive at more general propositions (Bacharach, 1989).

Three inherent difficulties exist with the inductive approach, and the goal of the research design must be to minimize these threats to validity. The first problem, noted by Hunt (1991), Eisenhardt (1989), and Ellram (1996), is that when one begins with observations, it is necessary to establish a research question or possible *a priori* constructs about what will be interesting to observe and what will not in order to focus the efforts and provide better grounding of construct measures (Strauss, 1987); however, this can also bias the results. The best defense against this sort of bias is a good research protocol, grounded in the literature (Ellram, 1996). Such a protocol is developed in this chapter, derived from the results of the literature review chapter and the pilot test.

The second difficulty lies in the method by which observations are distilled into propositions. Hunt (1991) again offered two choices. If the observations are quantifiable and enough data can be collected, then propositions can be derived statistically, as in exploratory factor analysis. This is a somewhat weak method, since propositions derived in this way cannot be falsified: one can only say that they are supported or not with certain confidence limits. When observations are not quantifiable or are few in number, the remaining alternative is pattern matching, which is the search for distinctive and recurring patterns in both within-case data and cross-case comparison (Hunt, 1991; Eisenhardt, 1989). While this method can generate useful insight, Hunt pointed out that it suffers from lack of intersubjective conformability. In other words, two researchers extract different patterns from the

same data; there is no test to determine which is better. Under these circumstances, the best one can hope for is a degree of consensus.

The third difficulty with the inductive approach is making the resulting propositions testable (Bacharach, 1989). In the inductive approach this involves reversing the process and should return hypotheses that mirror the original observations. Therefore, it is improper to both derive and test propositions within the same research setting (Hunt, 1991). This study ends with propositions; their reduction to testable hypotheses must remain a matter for future research in different settings.

3.2.1 Unit of Analysis

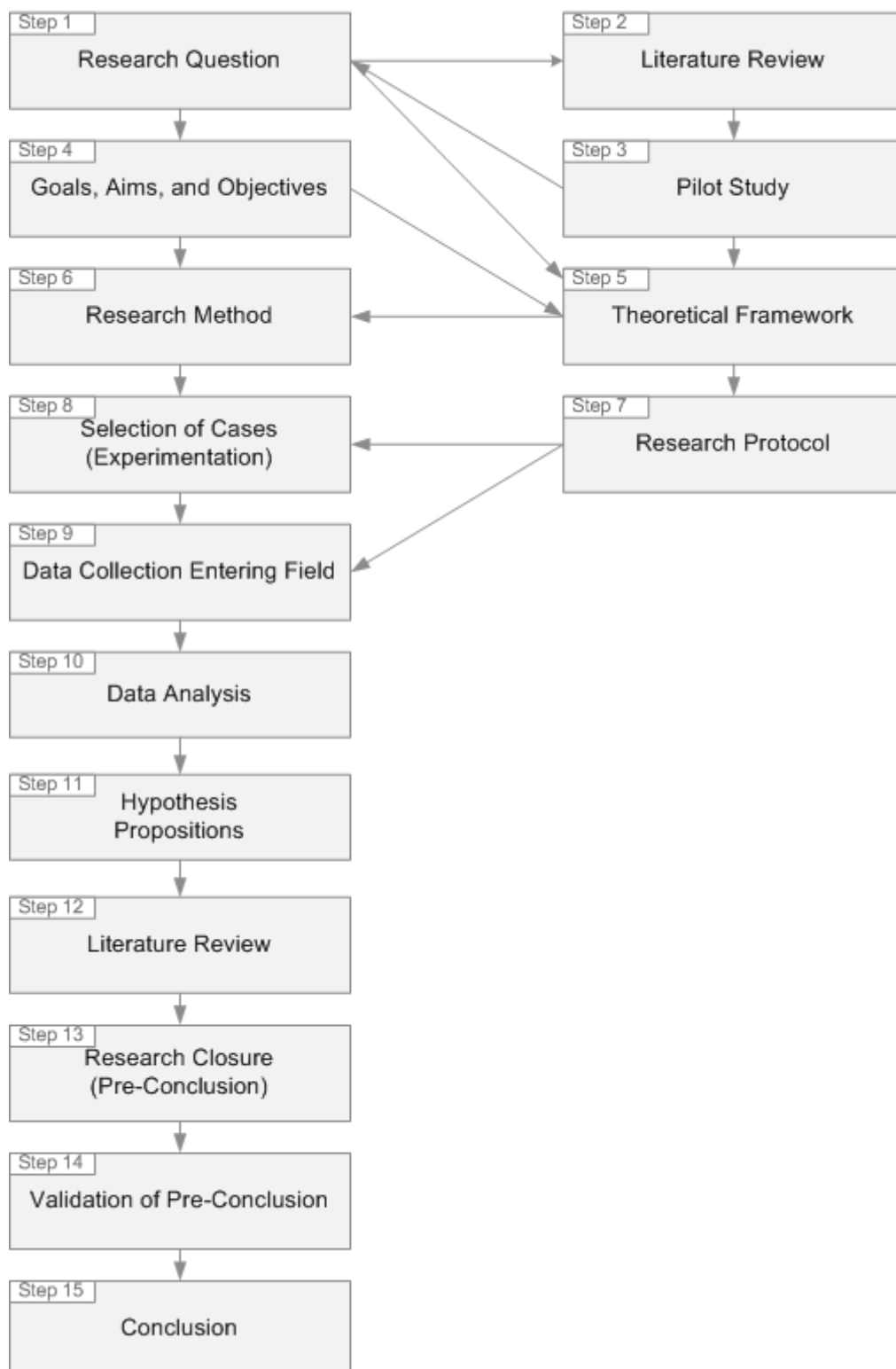
An important part of the research design is the selection of the appropriate unit of analysis. Since this selection is referenced throughout the discussion of the research protocol, a brief definition is offered here to facilitate that discussion. The unit of analysis ultimately selected is characterized as an 'event', which would appear to be a particularly important unit of analysis (Rosch, 1978). Events stand at the interface between an analysis of social structure and culture and an analysis of individual psychology. For this study's purposes, events consist of a defined set of individuals acting in a bounded setting to implement a process reconfiguration. The 'key unit' of analysis is an occurrence of process reconfiguration, for it is through the execution of this event that an episode of change takes place and could be observed in the form of configuration of assets since, according to Teece (2009), 'dynamic capabilities' are defined as the particular capability to shape, reshape, and configure assets.

3.3 Research Methodology

While other phenomenological approaches were possible study design options, the inductive case study approach was considered the best approach, given the objective of achieving an in-depth close up look at the phenomena of leadership influence on process reconfiguration (as a unit of change) taking place within small high-performing firms. This research is aimed at theory-building from case study research, operating in the context of discovery as described by Hunt (1991). Following further with Hunt's typology of research, purposive theory-building offers the researcher the choice of inductive or deductive methods. Lacking any central law or hypothesis that is presumed to apply, this research adopts an inductive approach comprised of observing, recording, classifying, and generalizing. This process is closely analogous to the development of grounded theory (Glaser and Strauss, 1967), in which theory is developed from observation only. In this mode, the researcher

enters the field with 'no theory under consideration and no hypotheses to test' (Eisenhardt, 1989: 538). The exploratory nature of this study in a contemporary setting led to the selection of a case study design (Yin, 1994; Eisenhardt, 1989). This researcher adopted the research methodology of process building from case study presented by Eisenhardt and depicted in Figure 3.1.

Research Method



Source: Eisenhardt (1989)

Figure 3.1

3.3.1 Research Question

To prevent preordained theoretical perspectives or propositions from biasing or limiting the findings, observation with no theory or hypothesis is the ideal first step in the inductive process of theory-building (Eisenhardt, 1989). However, according to Eisenhardt (1989), defining a research question is the first step in getting started since, without a research focus, it is easy to become overwhelmed by the volume of data. She went on to caution that, while early identification of the research questions and possible constructs is helpful, it is equally important to recognize that both are tentative and may shift during the research process.

This study seeks to answer a simple but critical question: How does leadership behaviour influence process reconfiguration in high-performing small firms? The primary purpose of this study is to explore the link between leadership behaviour and strategic change in high-performing small firms using inductive theory-building. Although phenomenological research works within the 'context of discovery' and seeks to provide inductive and emergent theoretical propositions, this form of inquiry enables theory-building as well as theory generation (Cope, 2005). The goal of this research is to develop a deeper understanding of the role of leadership and learning practices influencing process reconfiguration from a sample of entrepreneur-managers of small technology firms in the United States. Such inductive theorizing may then form the basis for more widespread and formal testing with larger samples.

3.4 Literature Review

An overview of the relevant literature that informs the exploratory study of the link between leadership behaviour and strategic change in high-performing small firms started this inductive theory-building process (See Chapter 2). The objective of the review was to cast a broad net to identify a list of key theories, concepts, and definitions that might be relevant to the research question and beneficial as areas of observation. The second objective was to identify and survey the streams of literature constrained by the limited understanding of strategic decisions of small firms. The literature review pointed the research to the dynamic capabilities framework, which provides a richer description of features and factors than the resource-based approach to explain how firms achieve sustainable competitive advantage in a changing environment exposed to strong competition.

3.5 Pilot Study

To explore the relevance and feasibility of observing the phenomena of the research question, a pilot study was conducted early in the research process (March 2011). Eight CEO/entrepreneur-managers of small technology firms were interviewed either in person or by phone. A semi-structured interview format was utilized with the following questions:

1. What does the concept of dynamic capability mean to you?
2. What practices as a leader do you expect to see in implementing a dynamic capability?
3. How do you encourage or manage these practices?
4. Is there anything else that you would like to tell me that I should include in my study?

The interviewees overwhelmingly shared that their companies were successful because of the constant sharing of information both within and outside the organization and the speed with which they synthesized this information and made new decisions. The results of the pilot study further solidified the inferences to learning practices and ways these leaders were encouraging or enabling a learning environment to facilitate the change processes they felt were necessary not only for competitive advantages but also for survival of their firms. Since the goal of the pilot study was simply to test the relevance of the emerging research question, the research question was modified based upon the responses, as documented below in Table 3.1. A summary of the pilot study is found in Appendix I.

Table 3.1

Impact of Pilot Study

Before	After
Research Question: (1) What practices and behaviours of the owner-manager would one find when implementing a dynamic capability? Research Question (2) What would the dynamic capability look like? In this case, a process improvement system (e.g., ISO, CMMI, Lean Six Sigma). Refers to leaders as 'owner-managers'	Research Question: (1) How does leadership behaviour influence process reconfiguration in high-performing small firms? Refers to leaders as 'entrepreneur-managers'

3.6 Research Goal, Aims and Objectives

The primary purpose of this study was to explore the links between leadership behaviour and strategic change in sustained high-performing small firms through inductive theory-building. This research study was conducted around one research question (How does leadership behaviour influence process reconfiguration in sustained high-performing small firms?) and had three objectives: (1) to explore the specific leadership behaviour that contributes to process reconfiguration, (2) to address a gap in the dynamic capabilities literature that says leadership and learning are important but is vague on specifics and actual practices, and (3) to build a theory explaining the link between leadership behaviour and strategic organizational change.

3.7 Theoretical Framework

Built on the resource-based view of strategy (Barney, 1986, 1991; Barney et al, 2011), the dynamic capability framework (Teece et al, 1997; Teece, 2007) explains that the capabilities necessary to sustain superior firm performance in an open economy with rapid innovation is heavily dependant on a firm's management capabilities. This concept involves the firm recognizing problems and trends, directing and redirecting resources, and reshaping organizational structures and systems so that they create and address technological opportunities while staying aligned with customer needs. While the dynamic capability framework identified three classes of capabilities necessary to sustain superior performance – managerial skills need to (1) sense opportunities, (2) seize opportunities and (3) configure resources – dynamic capability framework falls short of describing what the reconfiguration looks like or how it happens in the firm. Through inductive theory-building and case study research, this research utilized the dynamic capabilities framework to explore the role of leadership behaviour in influencing process reconfiguration in small firms.

3.8 Research Method

The exploratory nature of this study in contemporary settings led to the selection of case study design (Yin, 2003; Eisenhardt, 1989). This research method is considered appropriate because it allows the researcher (1) the unstructured behaviour, (2) in contemporary settings, and (3) the phenomena in context. The holistic multiple case design was used to investigate five high-performing small

technology firms from the U.S. federal contracting sector. According to Miles and Huberman (1994), multiple-case studies add confidence to the study, and exploring the contrasts in cases through understanding of single-case how, when, and why in one setting can apply to comparable cases. Miles and Huberman (1994: 29) suggested that, 'if a finding holds in one setting and, given its profile, also holds in a comparable setting but does not in a contrasting case, the finding is more robust'. This research study is of a phenomenological orientation, utilizing multiple inductive, theory-building case studies by using qualitative collection methods of in-depth, semi-structured interviews, observations, questionnaires, and archival sources (e.g., meeting minutes, training rosters, document sharing web portals, templates, policies, and procedures) as data collection methods (See Table 3.3). The rationale for multiple data collection methods is the same as in hypothesis testing: triangulation through multiple data collection methods provides stronger substantiation of constructs and hypotheses (Eisenhardt, 1989).

3.8.1 Research Protocol

In the context of research, a 'protocol' simply refers to a set of rules or procedures that ensures the collection of observations is consistent with the intent of the researcher and from case to case. The cases will differ, as will the data collected, but the protocol ensures that common themes are properly identified. If interviews are being used for data collection, an interview protocol ensures that a core set of questions is asked of all respondents in the same way (Harris and Sutton, 1986). The existence of a protocol does not preclude observations of factors not previously identified but that may emerge as relevant in the context of the event. This is, in fact, a fundamental aspect of the theory-building process (Eisenhardt, 1989). Table 3.2 presents the research protocol developed for this research based on the literature review, pilot study and research question, aim, and objectives.

Table 3.2

Research Protocol

Framework Element	Identifying Traits	Evidence
Reconfiguration of resources	<p>Change occurred in the organization. A process is identified that is done differently. What was the situation before? Why was the decision made to make the change? Who made the decision to make the change? Who was involved in the change process? How were these individuals involved and why were they selected? What role did each of these individuals play in the change process?</p> <p>How do these individuals see their role in the change process? How do they think they achieved the outcomes of the change process?</p>	
Actions by the leader to influence outcome of reconfigurations	<p>What actions does the leader believe he/she performed that directly influenced the outcome of the change process?</p> <p>What actions do the individuals involved in the change process think the leader performed to influence the outcome of the change process?</p>	
Actions by change participants that influence outcome of change	<p>What actions does the leader believe each change participant contributed to the outcome of the change process? How does the leader believe his/her actions influence the participants, and why? What actions does the change participant believe he/she took to influence the outcome of the change? How does he/she believe the actions of the leader influenced his/her actions, and why?</p>	
Environment	<p>What type of environment supported the outcome of the change? What actions does the leader believe he/she performed that influenced the environment for change process? What actions do the change participants believe the leader took to influence the environment for change?</p>	
New Ideas	<p>How important is it to the leader that new ideas are introduced in the firm? How does the leader believe he/she influences new ideas in the firm? How do participants believe leaders influence new ideas in the firm?</p>	

(continued)

Table 3.2 (continued)

Framework Element	Identifying Traits	Evidence
Information Collection and Transfer	How significant is the collection and transfer of information in the outcome of change process? How does the leader believe he/she influences collection and transfer of information in the firm? How do the change participants believe the leader influences the collection and transfer of information in the firm?	
Education and Training	How important is education and training of participants to the outcome of change process? What does the leader believe he/she did to influence education and training for the change process? What do the change participants believe the leader did to influence education and training?	

3.8.2 Case Selection

Since this study was of an exploratory nature, the research design had to provide sufficient opportunity for observation. This need strongly suggested a case study approach, consistent with the recommendation of Yin (1994) and Meredith (1998). Where it is not the cases themselves that are of interest, but rather some underlying commonality, the preference is for instrumental cases as defined by Stake (1994). 'Instrumental' means that the cases are simply vehicles for studying some phenomena; the cases themselves are not unusual in any way, nor should they be. The goal of theoretical sampling is to choose cases that are likely to replicate or extend the emergent theory by filling conceptual categories (Eisenhardt, 1989).

Selection of cases is an important aspect of building from case studies, as the selection of an appropriate population controls extraneous variation and helps define the limits for generalizing the findings (Eisenhardt, 1989). Since the focus of this study is leadership behaviour's influence on process reconfiguration, of small firms sustaining superior performance, this study clarifies the domain of the findings as small firms possessing dynamic capabilities. The researcher purposely sought out small firms that possess sustained superior performance, as defined by industry recognition and awards, and sustained periods of significant growth (i.e. over five years of increase revenues, employees and profit).

Case studies can involve either single or multiple cases and numerous levels of analysis and can employ multiple units of analysis within a single study (Yin, 1994). This study involves multiple cases of five small technology firms within the federal contracting industry with sustained high performance. The analysis is at the firm level, and experiencing an episode of change is defined as the 'unit of analysis' of implementing a process reconfiguration. Each participating firm's CEO or top management was involved in the implementation of the process reconfiguration system. For this study, a 'process reconfiguration system' is defined as a process innovation system such as Capability Maturity Model Integration (CMMI), ISO 9001, or ISO 20001. 'Small companies' are defined as having less than 300 employees. Since these process innovation systems are increasingly required to participate in the U.S. federal contracting sector, this research draws the sample population from small technology firms doing business in the U.S. federal contracting sector, one of the fastest growing sectors for small U.S. technology firms. In fiscal year 2007, the Small Business Administration (SBA) Office of Government Contracting reported that of more than \$378.5 billion in small-business-eligible federal contracts, small businesses received a total of \$83 billion in prime contract awards and about \$64 billion in subcontracts, representing a 3.6% increase from the previous year. The federal sector is also known for using process innovation (i.e., ISO 9000 certification and CMMI maturity rating) as a discriminator for competitive contract awards.

'Technology firms' are defined as knowledge-intensive service firms (e.g., engineering, IT and consultancy). These firms constitute an ever-increasing share of the business population and add significantly to economic development (Anxo and Storrie, 2001). Such firms have a strong need for continuous minor innovations and reconfigurations, making the leader's behaviour very important within this context. 'High-performing firms' are defined as small firms maintaining profitability, increasing revenues, and other non-economic factors, such as recognition by notable industry groups as high-performing firms.

3.8.3 Data Collection – Entering Field

The interviews start with the CEO of the firm, who is asked to identify all other individuals involved with the process reconfiguration; these individuals are also interviewed in initial and follow-up interviews, preferably face-to-face and, if necessary, through follow-up phone interviews. As previously noted, several data collection methods are used across all cases. Signed approval and confidentiality

agreements with all participants are secured prior to the start of data collection (Appendix III). The research protocol is used to guide the semi-structured interviews, which are recorded and transcribed, and archival sources, such as email traffic, meeting minutes, company policies and procedures, manuals, and work documentations, are reviewed as evidence and verification of data triangulation (Yin, 1994). Field notes of observations are also kept as a method of collecting data. According to Van Mannen (1988), field notes are an on-going stream-of-consciousness commentary about what is happening in the research, involving both the observation and the analysis. Table 3.3 provides a complete list of data sources.

Leadership behaviour was assessed in two ways. First, Bass' (1985) Multifactor Leadership Questionnaire (MLQ Form 5-Self) was administered to executive leaders (i.e., entrepreneur-managers [EM] or CEOs) by electronic web-based survey. The survey instrument and data collection were administered by www.mindgarden.com since email-based surveys are quicker and more cost-efficient than regular post mail (Sheehan and Hoy, 1997); eliminate the need for data entry, thereby reducing chances for errors in data calculations; and provide a user-friendly format for responders. An email invitation to take the survey was sent out from the researcher's personal email account, which has an (.edu) ending. This fact along with prior face-to-face contact with all survey participants should have increased the survey response rate (Sheehan and McMillan, 1999). The 45-item questionnaire assesses the four leadership scales of relevance to this study: (1) charisma, (2) inspiration, (3) intellectual stimulation, and (4) individual consideration. The EM/CEO was asked to judge how frequently he or she engages in different leadership behaviours measured by the questionnaire. Each behaviour was rated on a 5-point frequency scale ranging from 0 = *not at all* to 4 = *frequently, if not always*. Supportive reliability and validity data of the MLQ are presented by Bass and Avolio (2004). The MLQ has been used in nearly 200 research studies, doctoral dissertations, and master's theses.

The second measure of leadership behaviour involved content analysis of the interview transcript to determine an inventory of leadership behaviour in small firms implementing a process innovation (e.g., CMMI, ISO 9001 or ISO 20001). Current literature, as recommended by Strauss and Corbin (1990), served as background material for the search. Similar research conducted by de Jong and Hartong (2007) used Yukl's (2002) taxonomy of 'managerial practices' as a first classification of leader style. This taxonomy consists of 14 leader behaviour constructs derived from

empirical research and expert judgements and describes what leaders do in their daily work. According to de Jong and Hartong (2007), by using this taxonomy as a foundation, categories of relevant leader behaviours could be further developed and checked for suitability by looking for similar responses. Information and insights emerging from the interviews, as well as current literature, were used to consider potential new categories and check for the suitability of existing ones.

Table 3.3

Data Source Summary

Case	Title	Interview	Questionnaire	Other Data Source
ATSI	CEO	✓	✓	Website Strategic Plans Financial Reports Company Records Meeting Minutes Emails Status Reports Project Plans Marketing Collateral Field Notes
	Program Manager – Lead (PL) Engineering Process Group Lead	✓	✓	
	Project Coordinator - Quality Management Representative (QMR)	✓	✓	
	Program Manager		✓	
	Human Resources Manager	✓	✓	
	Business Solutions Architect	✓	✓	
ENT	CEO/President	✓	✓	
	Project Manager-CMMI	✓	✓	
	Lead Developer	✓	✓	
	CFO/Vice President		✓	
	Security Analyst	✓	✓	
	Executive Assistant	✓	✓	

(continued)

Table 3.3 (continued)

Case	Title	Interview	Questionnaire	Other Data Source
DGT	CEO/President	✓	✓	Website Strategic Plans Financial Reports Company Records Meeting Minutes Emails Status Reports Project Plans Marketing Collateral Field Notes
	Operations Manager/Quality Manager – ISO Lead	✓	✓	
	Contracts Specialist	✓	✓	
	Project Manager		✓	
	Systems Analyst	✓	✓	
	Proposals and Contracts Manager	✓	✓	
STI	CEO/President	✓	✓	
	Capture Manager/Assistant Quality Manager	✓	✓	
	Human Resources Director	✓	✓	
	VP/CFO		✓	
	Technical Lead/Quality Manager	✓	✓	
	Project Manager	✓	✓	
VTI	Chief Development Officer/Sr. VP	✓	✓	
	Executive Vice President	✓	✓	
	Director Information Technology/CMMI Lead	✓	✓	
	VP Operations	✓	✓	
	Chief Executive Officer		✓	
	Deputy Information Technology	✓	✓	

3.8.4 Data Analysis

A striking feature of research used to build theory from case studies is the frequent overlap of data analysis with data collection (Eisenhardt, 1989). The need to consider a wide range of possible explanations for the observations is actually a strength of qualitative analysis (Miles and Huberman, 1994). Kaplan (1964) and Hunt (1991) described the exact process of analysis as 'pattern matching'. Recorded observations are scrutinized for repeated themes and patterns of potential interest.

While there is no one generally accepted way of presenting within-case analysis (Eisenhardt, 1989), this research utilized the narrative plotline development write-up approach for each case. These write-ups are often simply descriptions but are central to the generation of insight (Gersick, 1988; Pettigrew, 1988) because they help the researcher cope early in the analysis with the enormous volume of data (Eisenhardt, 1989). These narrative descriptions are reviewed and verified with the interviewees for accuracy and confirmation. Archival firm documentation (e.g., meeting minutes, email traffic, memos, and reports) further triangulated data from the narrative, providing more opportunity for validation and verification (Miles and Huberman, 1994).

This researcher conducted both within-case analysis and cross-case analysis, which, according to Eisenhardt (1989), forces the investigator to go beyond initial impressions, especially through the viewing data through structured and diverse lenses. Using the research protocol and other themes that may have emerged during the data collection phase, the case narratives were compared for within-group similarities and intergroup differences. The results of these forced comparisons could be new categories and concepts the researcher did not anticipate. These tactics also improve the likelihood of accurate and reliable theory – a theory with a close fit with the data – and enhance the probability that the investigator will capture the novel findings that may exist in the data (Eisenhardt, 1989). Table 3.4 further outlines the steps of the data analysis phase of this study.

Table 3.4

Data Analysis Procedures

Step	Action
1	Organize and prepare data for analysis. This involves transcribing interviews, scanning material, typing up fieldnotes, sorting and arranging the data into different types depending on different sources of information. Upload the data to NVivo.
2	Read through all the data to obtain a general sense of the information and to reflect on its overall meaning.
3	Begin detail analysis with a coding process. A first order of coding was first developed by the research and this was discussed and reviewed with a peer debriefer This person reviews and ask questions about the qualitative study so that the account will resonate with people other than the researcher (Creswell, 2003)
4	Using NVivo the data was coded to detect pattern association and develop relationship themes. These themes were then analysed within and across cases.
5	Rich thick narratives conveying the findings of each case was then presented.

3.8.5 Shaping Hypothesis or Propositions

One step in shaping hypotheses is sharpening constructs. According to Eisenhardt (1989), this process contains two parts: (1) refining the definition of the construct and (2) building evidence that measures the construct of the case. This occurs through constant comparison of data and constructs so that the accumulating evidence from diverse sources converges on a single, well-defined construct. Overall, shaping hypotheses in theory-building research involves measuring constructs and verifying relationships (Eisenhardt, 1989).

3.8.6 Enfolding Literature Review

According to Eisenhardt (1989), an essential feature of theory-building is comparing the emergent concepts, theory, or hypotheses with the extant literature. This comparison involves asking about similarities, contradictions, and reasons for both. Examining literature that conflicts with the emergent theory and literature discussing similar findings is important because it ties together underlying similarities in the phenomena normally not associated with each other. The result is often a theory with stronger internal validity, wider generalizability, and higher conceptual level (Eisenhardt, 1989). Eisenhardt further pointed out that linking results to the literature

is particularly crucial in theory-building research because the findings often rest on a limited number of cases.

3.8.7 Research Closure

Eisenhardt (1989) stated that two issues are important in reaching closure: when to stop adding cases and when to stop iterating between theory and data. Regarding the first issue, she pointed out that it is not uncommon for researchers to plan the number of cases in advance, which may be necessary because of resource availability and time constraints. While there is no ideal number of cases, it is difficult to generate theory with much complexity and empirical grounding with fewer than 4 cases, and with more than 10 cases, it quickly becomes difficult to cope with the complexity and volume of data. For the purposes of this research, five cases were selected. Regarding the second closure issue, when to stop iteration between theory and data, Eisenhardt suggested that the iteration process stops when the incremental improvement to the theory is minimal.

3.8.8 Validation of Pre-conclusion

When conclusions are formed from a small set of cases, it is desirable to test their validity against a larger set of data. However, this research did not allow for such verification, so an alternative approach of a panel review of subject matter experts was employed. A panel of researchers and technical experts is an economical approach to pointing out flawed theory or unsupported conclusions. See Table 3.5 for qualifications of the panellists. The panellist is given a 20-minute summary of the research project and its scope, objectives and preliminary conclusions (Appendix VII), followed by approximately 30 minutes of open discussion. At the end of the discussion, the panellist is asked to answer a short questionnaire on agreement or disagreement with the conclusions (Appendix IX). A transcript of these discussions is consulted when formulating the final conclusions. The summary results of the questionnaire and supplemental comments are presented in Appendix VIII.

Table 3.5

Qualifications of Validation Expert Panel

Panellist	Profession	Qualifications	# of Yrs Process Change Experience
A	Process Improvement Consultant/ ISO Lead Auditor	Certified quality management subject matter specialist. Assisted over 47 companies globally implementing process management systems. ISO2000 Certified Consultant, Lead Auditor RABQSA, Lead Auditor IRCA.	21
B	Process Improvement/ CMMI Consultant	Co-author of the CMMI model. Certified CMMI lead appraiser, certified CMMI instructor. Specialize in CMMI implementation for small businesses.	25
C	Strategy Consultant	Phd Organizational Behavior. Consultant on organizational change management. Facilitating strategic planning and executive coaching.	25
D	Process Improvement Consultant	20 years Communications Electronics U.S Air Force Commander. Worked on NASA (Space Station experiment) project implementing ISO 9001. Assisted over 22 small companies attaining ISO certification.	33
E	CEO/Small Business Owner	Phd Electrical Engineering. President/CEO of technical engineering firm since 1988. Growing the firm to over 200 employees through dynamic change in people, processes and technology.	35
F	Strategy Consultant	Provide strategy consultancy to small government service companies. Instructor of management, strategy and leadership for both graduate and undergraduate levels. Serve on the Industry Advisory Group for The Cornell Center for Technology Enterprise & Commercialization (Cornell University).	25
G	Process Manager	Project lead responsible for development, implementation and maintenance of process systems at small technology firm.	10

(continued)

Table 3.5 (continued)

Panellist	Profession	Qualifications	# of Yrs Process Change Experience
H	CEO/Owner Small Business Owner	MBA International business with background in software development for aerospace industry. Founder and owner of a technology firm with over 200 employees. Leading the company through numerous strategic changes.	24
Mean			24.5
Std. Deviation			7.6

3.8.9 Conclusion

The process of theory-building from case study research involves constant iterative backward and forward between steps, which is intimately tied with empirical evidence from multiple data collection methods as well as variety of cross-case searching tactics (Eisenhardt, 1989). The conclusion of this study presents a theory explaining the link between leadership behaviour and strategic change that is grounded in past research literature and theories. The conclusion of this research also presents specific leadership behaviour and practices that contributes to process reconfiguration in high- performing small firms and in so doing, fills a gap in the dynamic capabilities literature on leadership influence on the development of dynamic capabilities.

3.9 Research Ethics

The issue of research ethics is of utmost importance for this study and is addressed in the research methodology to ensure that the sensitive nature of all information collected and involved with this study was protected. Every effort was made to ensure the research was conducted at the highest ethical standards at every stage of this research process.

In reference to data collection and analysis, the goals and objectives of the study were clearly communicated to the participants. Through explicit written materials and verbal communication, participants were notified that participation in the study was voluntary and that they could comment on or withdraw at any time during the research process.

To ensure confidentiality, each participant signed an informed consent form (see Appendix III). Expert panelists were informed of the confidentiality research ethics process, and the researcher also offered to sign a non-disclosure agreement with participating organizations. The researcher agreed that only she and the university would have access to completed questionnaires, research notes, interview transcripts, and collected documents. Furthermore, it was not the intent that this research would negatively affect the collective interest of the research subject. Finally, the researcher pledged to act in the highest professional manner, with integrity and fairness at all times, when conducting the research, producing data, and presenting study results.

3.10 Summary

In order to arrive at an appropriate research design, this chapter began with a discussion of the inductive approach to theory-building. In this approach, specific observations are collected, classified, and analysed to state more general propositions. This approach demands rigor at all phases to overcome the threats to validity inherent in the method. Selection of the research question and review of literature pointed to the dynamic capability framework as appropriate for this study.

The detailed design of the research followed from the choice of the inductive approach. A case study method employing sustained direct observation, semi-structured interviews, and a questionnaire was chosen as most appropriate for generating insight relative to the research question. Case selection is a critical phase of the research design. Five small, high-performing technology firms in the federal sector that have implemented or are implementing a process innovation change of reconfiguration of resources were chosen.

The field data are qualitative in nature, such that the analysis must be from pattern matching (Eisenhardt, 1989). Given the lack of intersubjective confirmability in this method (Hunt, 1991), a validation procedure was established to confirm that patterns observed in the data were consistent with the experiences of a panel of experts in the field.

The conclusion of this study offers a theory explaining the link between leadership behaviour and strategic change. This theory emerged from the observations of this study and is explainable and grounded in past research literature and theories. By addressing the research objectives of (1) presenting specific leadership behaviour that contributes to process reconfiguration and (2) addressing a gap in the dynamics capabilities literature on the specifics of leadership and learning, the conclusion of

this research answers the research question: How does leadership behaviour influence process reconfiguration in sustained high-performing small firms?

Chapter 4 – Data Collection: Case Study Narratives

4.1 Introduction

The purpose of this study was inductive theory-building to explore the links between leadership behaviour and strategic change in sustained high-performing small firms. This study explored the following question: How does leadership behaviour influence process reconfiguration in sustained high-performing small firms? The first objective of the study was to explore the specific leadership behaviour that contributes to process reconfiguration. The second objective was to address a gap in the dynamic capabilities literature that implies leadership and learning are important but is vague on specifics and actual leadership practices. The third objective was to build a theory explaining the link between leadership behaviour and strategic organizational change.

The purpose of this chapter is to present the results of field research that is relevant in the context of Chapter Three. This chapter is divided into three main sections. The first section describes the research setting and processes for data collection, data analysis, and theory-building. The second section presents structured narrative accounts of each case based on identified emergent concepts from the data, categorized and compared with theories from relevant literature on leadership and dynamic capabilities (Rerup and Feldman, 2011). The third section concludes with a cross-case analysis of observations and summary of research findings.

These observed relationships were presented and discussed as a research paper presentation (found in Appendix VI) at the academic Strategic Management Society Conference, held in Prague, Czech Republic, 6-9 October 2012. The findings were also presented to and reviewed for feedback with an expert panel (see Appendix VII). The panellists' qualifications as experts in the field of process change were presented in Table 3.5. The notes of the panel discussion are provided in Appendix VIII, and insights provided by the panel are incorporated in the analysis section of this chapter and Chapter 5.

4.2 Research Setting

Deep understanding of the context developed over many years of involvement with small firms was an essential attribute that helped the researcher navigate context, understand the meaning of data, gain initial and follow-up access, focus on key aspects of inquiry, and engage in reflective practices called for in a more highly

engaged mode of research and inductive theory-building (Boje, 1991; Eisenhardt, 1989). Over the past 25 years, the researcher has been involved with over 200 small firms in various roles, including employee and external consultant assisting with coaching. In addition, the researcher has been intimately involved with the development and execution of process innovation systems (e.g., ISO 9000, CMMI, and Lean Six Sigma) as episodes of change.

In the past five years, prior to the research period, the researcher was actively involved with developing and implementing the process reconfiguration initiative for four of the five case study firms. The researcher attended management meetings, contributed opinions and suggestions, and observed and actively interacted with these companies' leaders. While direct involvement with the case study firms was prior to the commencement of the research, this interaction and closeness provided the researcher context, which is essential for interpreting narratives that occur in organizational settings (Boje, 1991). Without participating in the organizations that contextualize a narrative, meaning is difficult, if not impossible, to grasp. As Chapter 3 states, the researcher considers this an important stage of the research that deepens the understanding of what organizational members know and feel.

4.3 Data Collection

As discussed in Chapter 3, eligible study participants consisted of leaders and relevant stakeholders of high-performing small technology firms, operating in the federal contracting sector of the U.S. economy, who had experienced an 'episode of change' (defined as an implementation of a process reconfiguration initiative) within the past three years. Leaders, including CEO and staff (N = 30), from five firms were recruited for this study via email invitational letters (see Appendix II). *High-performing small firms* are defined as small firms maintaining profitability, increasing revenues, and employee headcount consistently over a five year period. Other noneconomic factors such as recognition by notable industry groups like INC. 1000 listing, and Washington Best performing companies were also used as criteria for high-performing firms. Letters were initially sent to 25 firms prequalified as high-performing and with which the researcher had some familiarity in order to gain ease of accessibility. Ten of the invited firms contacted the researcher and indicated interest in participating. Due to time and resource constraints, the researcher purposefully selected 5 of the 10 eligible firms for case study. For confidentiality purposes, pseudonyms are used for each case study firm.

During the five months of data collection, 40 hours of interview discussions were recorded, producing 484 pages of transcribed text. The researcher kept field notes of observations and follow-up conversations. The researcher reviewed and analyzed company artifacts such as emails, meeting minutes, strategic plans, financial reports, newsletters, project plans, management reports, and marketing collateral (see Table 3.3). The initial data collection phase used formal but unstructured interviews with the CEOs and employees at various levels in the organizational hierarchy and from different functional areas, creating a picture of how the emerging theoretical constructs interrelate (Strauss and Corbin, 1990). Having multiple informants reduces potential informant bias not only by letting a researcher triangulate (Miller, Cardinal, and Glick, 1997) but also by adding complementary perspectives to the analysis. Whenever possible, independent confirmation of important statements was sought through alternative sources, such as archival data or follow-up interviews. Initial questions focused on the leaders' actions (see interview protocol, Chapter 3) that influenced the decision to implement the process reconfiguration initiative. To refine the theoretical perspective, follow-up questions focused on the leader's actions to influence organizational routines that the respondents highlighted as the most impactful result of the process reconfiguration episode of change (Rerup and Feldman, 2011; Cohen et al, 1996; Cyert and March, 1963; Nelson and Winter, 1982).

4.3.1 Data Analysis and Theory-building

As Chapter 3 explained, data analysis did not take place in a single exercise but in several major steps. The data were analysed based on the interview protocol and literature review. Techniques such as constant comparison (Glaser and Strauss, 1967; Suddaby, 2006) and content analysis (Krippendorff, 2004) were used to enhance data interpretation and increase confidence in the analytical process (Golden-Biddle and Locke, 2007). The software program NVivo was utilized to organize the data for content analysis of transcribed interviews and documents. Aggregated sections were iteratively pulled out to arrive at final codes (see Appendix X).

The next part of the analysis was to identify theories from the ongoing literature review that helped to ground thoughts on leadership actions and change in organizations. The theories that emerged were dynamic capabilities (Helfat and Winter, 2011; Teece, 2009), managerial capabilities (Helfat et al, 2007), process reconfiguration (Winter, 2003; Cyert and March, 1963), organizational learning (Senge, 1990; Argyris and Schon, 1978), and leadership styles as developed by Bass

and Avolio (1994). These concepts were used to organize, analyse, and build theory from the data (see Table 5.1). The third step of the analysis phase was to present the data in a rich, thick narrative form that helps the reader understand the main point of the research (Feldman, 2000).

4.4 Case Narratives

The following section presents detail of this study in thickly descriptive narratives (Eisenhardt, 1989) with the basic research question in mind: How does leadership behaviour influence process reconfiguration in high-performing small firms? For transparency and ease of presentation to the reader, the narratives are organized within Teece's (2009) dynamic capabilities theoretical framework of sensing, seizing, and reconfiguration so that leadership behaviour and influence on process reconfiguration can clearly be seen for development and theoretical validity. Each case narrative highlights the leadership behaviour that influenced the outcome of the process reconfiguration and is followed by an analysis of the MLQ leadership style questionnaire. Table 4.1 summarises the background of all the cases. As noted earlier, more detailed case summaries are attached as Appendix V.

Table 4.1

Summary Background of Companies

	Started	Revenues (millions)	Employees	Core Competency	Process Innovation (PI)
DGT	2001	\$6.4	12	*Network engineering *Help Desk/Call Center *Logistics and Facilities Support	ISO 9000
STI	2000	\$6.8	50	*Help Desk/Call Center *Network Management *Information Assurance	ISO 20001
ATS	1998	\$14	60	*Database Design *Enterprise Information *Early Event Detection	CMMI – Maturity L3

(continued)

Table 4.1 (continued)

	Started	Revenues (millions)	Employees	Core Competency	Process Innovation (PI)
ENT	1999	\$10	120	*Systems Integration *Information Assurance *Management Consulting	CMMI - Maturity L2
VTI	1995	\$10	120	*Help Desk/Call Center	CMMI – Maturity L2

4.4.1 Dynamic Global Technology (DGT)

4.4.1.1 Sensing

In early 2006, the CEO of DGT first started considering having DGT pursue a process reconfiguration initiative. Through frequently consulting with customers, mainly the Air Force at that time, on what was important to them and what they were trying to achieve as an organization and paying close attention to what the government was requiring on some of their contracts, the CEO of DGT became aware of the increasing trend of the government preferring vendors with an approved Process Improvement (PI) methodology. After doing further market research, consulting with other industry experts, and looking at what the government was requiring of some large suppliers, the CEO made the sole decision to have her company pursue a process reconfiguration initiative as a competitive differentiator and means to ensure commitment of satisfaction to all DGT's customers.

4.4.1.2 Seizing

It took another two years before DGT would begin a formal process to pursue ISO 9000 certification. The CEO noted that the cost and commitment of resources required to accomplish the initiative was beyond DGT's resources in 2006. However, two years later, an opportunity presented itself by way of the federally funded Department of Defense Mentor Protégé Program. Through this program, DGT was able to secure funding and assistance from its mentor company, EDS Government Systems (which later became Hewlett Packard Federal Services). Despite the financial assistance from the Mentor Protégé Program, significant financial commitments were still required from DGT. The CEO was quick to point out that the decision was solely hers to make in terms of when and what process improvement

initiative DGT would pursue. Being the primary owner of a small business gave her this advantage. She was convinced that the time was right and that ISO was the best process reconfiguration system for DGT. According to the CEO,

We chose ISO because of our business partners and our business model...We thought ISO had the most flexibility in terms of what really made sense for us, particularly since we are a small business. We didn't want to be overcome by so much structure and process that it would not really be effective in how we deliver to our customers....ISO is internationally recognized, well-respected system.

4.4.1.3 Process Reconfiguration

Employees at DGT had a clear understanding of the need and importance of DGT pursuing a process change initiative in order to grow and attract new business. The majority of the employees had been at DGT since its inception and had witnessed the company's growth. At the start of the process reconfiguration initiative, the CEO met with all employees as a group and shared her vision of what the process reconfiguration initiative would do for DGT and why it was important for the company to take on this initiative. She outlined the benefits to each individual work areas and then sent an email announcement to all DGT employees and a formal letter to its customers informing them of the start of the new process reconfiguration initiative, the projected impact on workflow, and the potential benefits to customers.

Throughout the implementation process, the CEO continually shared her vision and stated publicly the importance of process reconfiguration in the company's newsletter and updates on the company's website. The process reconfiguration initiative status update was an agenda item at bi-weekly staff meetings and quarterly management review meetings. These actions sent a clear signal that DGT's top management supported this initiative and saw it as high priority. Employees were motivated by these messages and embraced involvement in the initiative. Such motivation was demonstrated when employees from the accounting team volunteered to cross train and learn the new order fulfilment process so that they could assist with heavy work flow. The CEO insisted that all employees participate in the process reconfiguration overview training, which provided them with knowledge regarding the new process reconfiguration. Employees were able to contribute to the design and implementation of the change process, which allowed the process to be tailored to meet the needs of DGT, not just a generic approach.

All changes to resources affecting the 23 new process routines during the process reconfiguration initiative were approved by the CEO over the 18-month implementation period through her attendance at bi-weekly management status review meetings, informal face-to-face meetings, and ad hoc conference calls and through timely email communications. The project lead remarked,

Our CEO attended meetings with the staff and other management to go over things that are good, bad or indifferent. She would send out emails and follow ups. She fully participated in most of our meetings. She has actually, I'll put it this way, rolled up her sleeves and gotten involved....

The CEO appointed a senior project director, who has been with the company for many years and worked in various functional areas throughout the organization, as the project lead for the process reconfiguration initiative. The project lead was responsible for coordinating the process reconfiguration, which included process redesign for proposal development, order fulfilment, purchasing, accounting, and human resources departments. This job required linking activities from units across the company. The cross-functional team assisting the project lead was made up of the business development director, budget analyst, a technical project lead, and the CEO. This cross-functional structure provided opportunities for shared learning to take place and, with the CEO as a member of the group, allowed for quick decisions on priority items such as selection of processes to be addressed first and assignment of responsibilities. The cross-functional team structure also facilitated the ease with which employees could suggest and make changes to existing processes. As noted by the project lead,

We operate in a very fast paced business, requirements are always changing and we have to keep up with those changes and make sure we are still responsive...We have to make sure the process works for us and not the other way around where we work for the process.

Formal training was facilitated for all employees involved with new process redesign. Primarily, one-on-one, on-the-job training was utilized for process training. For each new process developed and approved, the process team leader was responsible for making sure that all employees involved with that particular process area received a copy of the new procedure and were trained on the new process. For example, in the order fulfilment process, when a new automated integrated reporting system (QuickBase) was purchased to capture new order information, employees

were trained on how to input data to the different modules and how to create new reports, such as inventory management reports and time to customer delivery reports. These changes in processes resulted in the business development manager getting quicker feedback from the order fulfilment team, which allowed for more competitive pricing of cost bids going out to customers.

By approving the internal budget of \$60,000 for the execution of the process reconfiguration initiative, the CEO demonstrated financial commitment to the initiative. This financial commitment was demonstrated numerous times as it became necessary to bring in new resources, such as new personnel and new equipment. For example, during the proposal development process change, the proposal process development committee (i.e., the director of business development, project analyst and pricing specialist) identified that having a central depository for storing proposal documents and templates would make sharing information from previously submitted proposals a lot easier and reduce the time needed to develop new proposals. The CEO approved the budget to purchase the document depository system SharePoint. The proposal development committee also determined that proposal activities needed to be coordinated by a new proposal manager. This new position was created, with a new hire filling the position. A proposal analyst part-time position was also created but filled by someone working part-time in another department. This employee now had full-time hours with this new responsibility. Financial commitment was approved by the CEO to secure the new employee in an approved full-time position, along with capital investment of equipment and software for the new IT infrastructure.

Employees who worked on the process reconfiguration initiative were often recognized at meetings and company functions and spotlighted in the newsletter. The implementation team was rewarded with a monetary bonus and special celebration luncheon after the company achieved ISO certification. Employees who provided process improvement suggestions that were implemented were recognized in the company newsletter and announced at quarterly management meetings. Contribution to the company's process reconfiguration initiative was added to employees' annual performance evaluation as an evaluation element.

4.4.1.4 Outcome

Pursing the process reconfiguration initiative at DGT resulted in the cumulative effect of redesigning of 28 process routines. Three years after

certification, DGT is still sustaining its process reconfiguration system, with continual improvements being made to adapt to changes in the business environment.

When asked to give three examples of process routines that were the most impactful due to their redesign through the process reconfiguration initiative, the ISO project manager highlighted proposal management, order fulfilment, and employee evaluation routines. An illustration of the summary outcome of process reconfiguration is captured in Table 4.2.

Table 4.2

Illustration of Process Reconfiguration: Reconfiguration of Routines

Routine	Before	After	Outcome
Proposal Development	No formal process	Streamline, formal process, shared depository	Proposal production went from average of 4 per month to 7 per month. Win rate increased by 50%
Order Fulfilment	Undocumented, semi-automated	Documented, automated	100% of total orders fulfilled within 8 weeks or less vs. 90% before implementation
Employee Evaluation	Informal, no employee input, did not meet the intent of activity	Documented, input by both employee and supervisor	CEO reported that 100% of employees expressed improved satisfaction with new evaluation form

4.4.1.5 Leadership Style

The results of the MLQ survey Rater and Leader Forms imply that both the leader and her employees believe that she engages in transformational leadership practices. The employees believe that the leader 'fairly often' to 'frequently, if not always' (an average score of 3.65), engaged in transformational leadership. The leader's scores based on employee- and self-perception were fairly similar in most of the leadership dimensions. The leader's highest scores as perceived by the employees were for idealized influence, with an average score of 3.83; individual consideration, with an average score of 3.13; inspirational motivation, with an average score of 3.43; and intellectual stimulation with an average score of 3.42.

The MLQ Rater results also imply that employees perceive that the leader 'fairly often' practices some elements of transactional leadership. The leader scored 3.28 in contingent reward. Evidence from the employees' interviews supports the

ratings as the leader provided rewards and recognition to the employees. However, the leader had a low score of 1.7 in management by exception active and an even lower score of 0.27 in management by exception passive. In support of this inference, the leader had a score of 0 'not at all' in laissez-faire leadership behaviour.

The leader's next highest scores were in the dimensions of effectiveness (3.7), satisfaction with leadership (3.7), and extra effort (3.2) which indicated that employees 'fairly often' engage in extra effort based on the actions of the leader.

Table 4.3

Mean Scores of MLQ Leadership Behavior

	Rater	Leader
Leadership Dimensions	Mean	Mean
Idealized Influence	3.85	3.00
Inspirational Motivation	3.56	2.80
Intellectual Stimulation	3.53	3.00
Individual Consideration	3.12	3.50
Transformational Leadership	3.515	3.075
Contingent Rewards	3.28	2.5
Management by Exception: Active	1.7	2
Management by Exception: Passive	0.27	1
Transactional Leadership	1.75	1.83
Laissez-Faire	0	1
Extra Effort	3.2	2.3
Effectiveness	3.7	3
Satisfaction with Leadership	3.7	2.5

Rating Scale: 0= not at all, 1= once in a while, 2 = sometimes, 3 = fairly often, 4 = frequently, if not always

Employee Perception – Rater Form Results (N = 5) and Leader self-perception – Leader Form (N = 1)

4.4.2 Engineering Network Technology (ENT)

4.4.2.1 Sensing

Seven years after starting ENT with two business partners, the CEO admitted the company struggled to secure a solid revenue base in a constantly changing environment. Leveraging the founders' backgrounds in software development, the original focus of ENT was the commercial software sector. A few years later, the dot-com bubble burst, severely decreasing the demand in the banking and commercial software industry. ENT looked to the government sector as a safe market. Then, 9/11 occurred, causing the federal government to shift its spending focus to the defense

sector, and the ENT leadership team decided to shift its marketing focus to the defence software development sector.

During pursuit of the federal market sector, the CEO noted the increasing trend of the federal government requiring certification in a process improvement system in order to bid on new business. While the CEO felt that ENT had fairly good software development processes in place, he believed that for ENT to remain competitive, it would have to obtain certification in one of the leading process improvement methodologies. So the CEO and CFO evaluated the three most popular methodologies in their industry and selected CMMI since it directly addressed software design and development, which is ENT's core business focus. However, little consideration was given to how implementing new processes would affect current customers. The focus was on new business and what it would take for ENT to achieve certification status to differentiate it from its competitors.

4.4.2.2 Seizing

Joining the federally funded MPP as a protégé in late 2008 was a financial incentive for ENT leadership to support pursuit of a process reconfiguration initiative since MPP would cover part of the implementation cost. However, the total internal cost and budget that ENT would have to commit to implement the process reconfiguration took the CEO by surprise, and he had to pull back resources from the process reconfiguration initiative. The CEO pointed out,

We were told and we knew we were going to have to dedicate as much money as MPP was putting in to the project...next thing you know, I'm realizing why are my people not billing? They were working on the process reconfiguration initiative instead of customer projects...I saw my costs go up...my profitability go down and my overhead rate went up.

While the CEO, in consultation with the CFO, decided to continue with the process reconfiguration, the implementation budget was reduced, which created competition for resources and competing demands on employees' time.

4.4.2.3 Process Reconfiguration

At ENT, the CEO announced the process reconfiguration implementation process at an 'all hands' meeting attended by all employees, and status updates were briefly mentioned in the company's quarterly newsletter. Responsibility for execution of the initiative was given to the project lead, who reported to the Chief Technology Officer (CTO) and would have to go through the chain of command of the CTO to the

CFO and then to the CEO to make final decisions on financial issues. This chain of decision-making created delays in implementation and frustration in the process implementation team. In fact, several employees stopped coming to the process reconfiguration team meetings. Since achieving the process certification was not tied to performance evaluation, the employees had no incentive to actively participate in the initiative. While the CEO consistently mentioned the benefits of ENT pursuing the process reconfiguration initiative at all meetings, he infrequently attended the working planning sessions for the reconfiguration. These actions sent a mixed message to the employees. The lead developer explained,

We all got the message loud and clear from the CEO that ENT strives for high quality products, and that's just one of the themes of this company...And the reason that we adopted CMMI was for that, so it's a means to an end, and that end has been preached...But it was not clear how we were going to achieve CMMI and do our regular work...It was very frustrating for us.

According to the CMMI project lead,

I didn't have a choice nor did I know much about CMMI. I was fairly new to the company when I was called into the CEO's office one day and was told that I will be leading the CMMI effort and that I need to make sure that we achieve maturity level 2 in 18 months.

Working with the external subject matter experts (SME), the project lead gained an understanding of the process areas involved, the resources needed, and the type of people needed to be involved with the process improvement effort and, together with the SME, decided on the management structure for implementation. Three functional teams were formed: The technical group was made up of project managers, software engineers, and technical writers; a business development group was made up of proposal writers, cost specialists, and business development director; and a financial group was made up of the accounting manager, procurement specialist, and CFO. These highly specialized teams formulated new process for their own functional areas with limited input from other functional areas. This lack of co-development of processes resulted in new processes that did not meet the needs of other areas with functional links to these specific areas. Therefore, when the new processes were deployed for implementation, employees resisted them and, after a short time of use, went back to their old ways of doing business. For example, there was no joint

planning with the business development team and the technical team, resulting in awards of new contracts that the technical team could not deliver.

At the start of the process reconfiguration initiative, key employees attended an overview training session on the process reconfiguration. During implementation, however, several of those employees left the company, and many new hires were made. The new employees never received the process training and, therefore, did not have sufficient knowledge about the process reconfiguration and could not implement it as expected. The CEO noted, 'We went back to old habits because we haven't yet adopted this process and streamlined it for somebody who needs to do things faster'.

The CEO of ENT expressed that while he fully understood that pursuing a process reconfiguration was a huge undertaking and would require a major commitment of both money and time, he was prepared to make the commitment. However, when the realities of the actual numbers start showing up on the financial reports, he had to take a step back. The CEO stated,

From an economics perspective, it was scary because you're looking at profitability going down for a long period of time, and then you haven't seen the results of the improved quality...it becomes faith it's going to work, we knew it was the right thing for ENT in the long-term and my partner and I decided to stick to it and continue pushing for certification and making sure our people understood the value of CMMI in the company. It also took a toll on the people that worked on the project... we had to put in a lot of at-a-boys and at-a-girls [patting of the back] to thank people for putting in the extra time because all of a sudden they still had their job to do, but they all of a sudden got this other what looks like a full-time job in setting up process improvement for the greater good of the company. And so we had to make sure we rewarded people and we gave people awards at the end of this so that people knew we really were thankful for their input. For the period of time it took to get CMMI, it was extremely painful for our employees....

This financial realization caused the CEO to still push for the process reconfiguration but at a smaller budget by requiring employees to continue to work regular time on direct bill projects and uncompensated time on the process reconfiguration since a limited overhead time budget was approved for the process initiative. Even the project lead had full-time coverage on overhead to dedicate to the process reconfiguration. He had to split his time 50% to direct labour and 50% to the

process reconfiguration, which was distracting and contributed to the mixed message that leadership was not fully committed to the process reconfiguration. When the project lead asked for the input of the proposal manager and other accounting and technical staff, they were reluctant to help since it was not clear where they would charge their time.

It was proposed by the technical functional group and presented by the project lead to the CEO that ENT procure a software tool to facilitate information sharing, and this investment was denied by the CEO and CFO. The lead developer stated,

I wish that I had a software tool to help manage it [process reconfiguration] better...The way that we implement our processes is very kind of manual...Keeping track of everything is very time consuming. We now use a team foundation server that is a document repository but we need more tools to be more efficient and to share lessons learned with each other.

4.4.2.4 Outcome

While ENT achieved CMMI maturity rating 2 in 18 months, the CEO recognized that in certain areas of the company, the systems were not being maintained and executed as intended. However, three years after implementation, there are still pockets of evidence showing that the process reconfiguration initiative is working. Table 4.4 illustrates some examples of outcome of the process reconfiguration as a result of the initiative.

Table 4.4

Illustration of Process Reconfiguration: Reconfiguration of Routines

Routine	Before	After	Outcome
Requirements Development	Done in ad hoc fashion Led by the technical team	Cumbersome joint formal process, still led by technical team with input from accounting and business development	Process followed some of the time. The increase in number of sign off for final approval leads to 26% increase processing time with delay in delivery time to customers

(continued)

Table 4.4 (continued)

Routine	Before	After	Outcome
Change Management	Undocumented change request, project manager or desk clerk makes change without consideration of cost impact	Documented, very manual Cost impact analysis is done for every change request, and customer is required to sign off before change is performed	Significant improvement in accuracy of job costing estimates; however, increased difficulty in getting customer sign-off on change request led to 20% increase in delay of delivery and, ultimately, the inconsistent use of the official new process
Lessons Learned	Informal, very little sharing Everyone did their own thing	Documented, increased awareness, more sharing of templates and best practices	Reduced duplication of efforts by 14% since projects teams are now learning from other teams on how to solve issues and best practices are shared in meetings

4.4.2.5 Leadership Style

The results of the MLQ Survey Rater and Leader Forms imply that the leader believes he 'sometimes' engages in transformational leadership practices, while his employees believe that he 'rarely' engages in transformational leadership practices. The leader's scores as perceived by the employees and as perceived by the leader himself were fairly similar in most of the leadership dimensions. The leader's highest score as perceived by the employees was for individual consideration, with an average score of 3.20; idealized influence and inspirational motivation were equal at 2.72. The MLQ results also imply that employees perceive the leader 'frequently' practices some elements of transactional leadership. The leader scored 2.46 in contingent reward. Evidence from the employees' interviews supports the ratings, as the leader provided some rewards and recognition to the employees. However, the leader had a low score of 1.7 in management by exception active and an even lower score of 0.27 in management by exception passive. In support of this inference, the leader had a score of 0 'not at all' in laissez-faire leadership behaviour.

The leader's next highest scores were in the dimensions of effectiveness (3.0), extra effort (2.8) and satisfaction with leadership (2.4), indicating that employees were 'sometimes' satisfied with the leadership based on the actions of the leader.

Table 4.5

Mean Scores of MLQ Leadership Behavior

Leadership Dimensions	Rater	Leader
	Mean	Mean
Idealized Influence	2.72	3.00
Inspirational Motivation	2.72	3.00
Intellectual Stimulation	2.14	2.40
Individual Consideration	3.20	3.50
Transformational Leadership	2.69	2.98
Contingent Rewards	2.46	2.50
Management by Exception: Active	1.53	0.00
Management by Exception: Passive	1.40	0.00
Transactional Leadership	1.70	0.83
Laissez-Faire	0.92	0.00
Extra Effort	2.88	2.70
Effectiveness	3.00	1.00
Satisfaction with Leadership	2.40	2.00

Rating Scale: 0= not at all, 1= once in a while, 2 = sometimes, 3 = fairly often, 4 = frequently, if not always

Employee Perception – Rater Form Results (N=5) and Leader self-perception – Leader Form (N=1)

4.4.3 Advanced Technology Systems (ATS)

4.4.3.1 Sensing

The CEO of ATS indicated that the decision to pursue a process reconfiguration initiative came about as he was exploring various growth strategies for becoming a prime contractor. Since its inception, ATS realized steady annual growth, but after major changes in the economy, such as the dot-com bubble burst, and the financial market crash that followed 9/11, the CEO was constantly looking for the next area of opportunity. He would not only attend industry conferences and read up on trade magazines, but he also created an in-company library of current industry journals, books, and magazines. On the agenda of each bi-weekly vice presidents' and directors' meeting would be a discussion of new trends in technology and business opportunities. It was at one of these meetings that the idea of pursuing a process reconfiguration initiative was first discussed.

As the CEO and his leadership team investigated opportunities to go from a subcontractor on federal contracts to a prime contractor, they discovered that the federal government often requires contractors to have a formal process improvement system in place. Initially, ATS did not pursue the process reconfiguration because it

was cost-prohibitive. However, anticipating that ATS would one day like to be a prime contractor and bid on larger contracts, the CEO went on to explain that

It began to surface on my radar that CMMI (PI) was an important strategic goal for us to achieve, if we could figure out how to pay for it. As the leader of the organization, I never wanted to be in a position where we were presented with an opportunity and then were unable to respond because we hadn't done something – certainly something that we had thought about doing, and had not done it. Some of those situations are going to occur because you can't see them all, obviously, but the things that we can see coming, we tried to knock those down, and CMMI (PI) fell into that category.

4.4.3.2 Seizing

As it turned out, a couple months after the CEO first introduced the idea of ATS pursuing the process reconfiguration, ATS was engaged in the Department of Defense MPP. The CEO pointed out, 'I made sure that accomplishing CMMI was included in our MPP agreement, because MPP would help offset the cost'.

The CEO announced the process reconfiguration as a strategic goal at the company's 2007 annual two-day offsite strategic planning session facilitated by an outside third party. According to the CEO, the objective of these sessions was to bring the executive team away from the organization and into an environment in which it could focus on thinking strategically and leave with a plan of goals that had measurements, was time-based, and involved a list of strategic goals that addressed every facet of the business. Input was solicited from the entire employee base through a survey administered before the meeting. Each recommendation or suggestion was explored at the strategic session. By session end, a detailed plan with action items, action steps, and dates for every person in the room and anybody assigned to their teams was developed. This detailed plan was reviewed every 30 or 40 days throughout the next year. Having the process reconfiguration as part of the strategic plan gave the initiative an official status and sent a clear message to the employees that this initiative was tied to performance measurements of each business unit, which ensured buy-in from employees at every level.

4.4.3.3 Process Reconfiguration

The process reconfiguration implementation process was announced to all ATS employees by the CEO. According to the PI project manager,

The idea of achieving the CMMI Level 3 rating was fairly well promoted. Our CEO talked a lot about it at all-hands town hall meeting, in our bi weekly management meetings and every other opportunity that he got. It was positioned as something good and great and that, as a company, we were going after. Definitely, you could see that support from the CEO level.

Status of process reconfiguration was always an agenda item at senior management meetings. Employees working on the process reconfiguration were frequently highlighted in the company's newsletter. These actions sent a clear message to employees that the process reconfiguration was important to the company, and employees openly supported the effort and frequently submitted ideas for improvement that were often acted upon.

After the announcement was made, a one-day overview training session was held for all managers and project leads. This training session was delivered by the external SMEs. The CEO decided that including the whole company under the scope for the process reconfiguration would be a daunting task, so the CEO, QMR, and project managers decided that selecting two of the more highly visible projects as part of a pilot would be more effective implementation. This action also helped solidify to the employees the importance of the process reconfiguration. Additional on-the-job training was provided after each new process was developed and before deployment. Daily 5-minute 'scrum' meetings were held to obtain employee feedback on newly deployed processes. If something was not working right, ideas were quickly brainstormed for improvement, and it was decided at the meeting either to implement change or submit ideas for further investigation by the change review board. This encouraged employees to easily share feedback on new processes and quickly adopt change on an on-going basis.

The CEO indicated that after the decision was made at the strategic planning session and funding was secured under the MPP, he assigned the responsibility of executing the process reconfiguration initiative to the Vice President of Federal Services who, at the time, also served as the Quality Management Representative (QMR). An external subject expert was selected to facilitate and coach the overall effort. However, the Vice President of Federal Services appointed a CMMI program manager to lead the initiative internally. This person became the lead of the Engineering Process Group (EPG), whose responsibility it was to coordinate all the process reconfiguration efforts and champion the effort throughout the organization.

This temporary, cross-functional team was made up of project managers and technical leads from all four projects under the scope of the new process reconfiguration, with human resources (HR), information technology (IT), and accounting brought in to join the team at the time of development of processes relevant to their specific areas. This dedicated team with coordination responsibilities facilitated continuity and ownership for the initiative.

While the CEO was not directly involved with the administration of the process improvement, the Vice President was actively involved with meetings and had full authority to make decisions regarding resources and release of staff from direct labour to support the effort. Where the input of the CEO was necessary, the VP she facilitated quick decisions. These cross-functional teams also facilitated the development of processes tailored to the organizational needs identified by the practitioners developing the new processes.

While the MPP covered a major part of the cost for ATS process reconfiguration, the CEO was quick to point out that the initiative still cost his company well over \$80,000 of indirect labour and investment in IT infrastructure to support electronic tools, such as SharePoint, Rally, and QMS Intranet Wiki, to share policies and procedures, work templates, lessons learned, and best practices with all employees in the company. The approved overhead labour budget allowed the project lead to dedicate over 90% of her time to the process reconfiguration, which reduced the anxiety and stress of trying to get the initiative accomplished as a side project. The CEO's financial commitment of the overhead budget made it easier for the project lead to get the cooperation of other employees, such as the business development director technical leads and HR staff, since employees had approved time to charge for the effort. As the project lead remarked,

Without the commitment from the CEO it (process reconfiguration) just wouldn't have happened...It's the sort of thing where...you really needed upper management support to demonstrate how important it was and that it was a strategic business need; without that, it just would have been easy to back-burner it. It wouldn't have been out there front and center like it was....

4.4.3.4 Outcome

In 27 months, ATS achieved a CMMI maturity level 3 rating. The project was daunting and overwhelming at times, given the competing needs for resources at a small company. Two years after certification, ATS is sustaining its process

reconfiguration with continual improvements. Table 4.6 illustrates some examples of process reconfiguration outcomes as a result of the initiative.

Table 4.6

Illustration of Process Reconfiguration: Reconfiguration of Routines

Routine	Before	After	Outcome
Requirements Management	Informally captured in spreadsheets	Streamline, formal process, Rally tool used to capture users' stories and tasks	New tool enabled project team and customers visibility to current job status in real time, resulting in 15% faster response time and 20% more accurate job estimation
Organizational Training	Undocumented training needs, training records not centralized	Training requirements captured, training plans developed, centralized training database	Reduced the search time by 35% for qualified personnel on proposal submission
Software Integration Testing	Unstructured and informal	Documented and formalized Dedicated tester added to project staff, Rally tool customized to capture testing information	Testing time decreased by 15%, leading to 5% reduction in overall delivery time

4.4.3.5 Leadership Style

The results of the MLQ survey Rater and Leader Forms imply that both the leader and his employees believe that he engages in transformational leadership practices. The employees believe that the leader 'fairly often' to 'frequently, if not always' (an average score of 3.42), engaged in transformational leadership. The leader's scores as perceived by the employees and by the leader herself were fairly similar in most of the leadership dimensions. The leader's highest score as perceived by the employees was for inspirational motivation (3.9), idealized influence (3.62), and individual consideration and intellectual stimulation (3.08 and 3.06, respectively). The MLQ Rater results also imply that employees perceive that the leader 'fairly often' practices some elements of transactional leadership. The leader scored 3.45 in contingent reward. Evidence from the employees' interviews supports the ratings, as the leader provided rewards and recognition to the employees. However, the leader

had a low score of .53 in management by exception active and 1.10 in management by exception passive. In support of this inference, the leader had a score of 0 'not at all' in laissez-faire leadership behaviour. The leader's next highest scores were in the dimensions of influence of employees of extra effort (3.78), effectiveness (3.66), and satisfaction with leadership (3.7), which indicated that employees 'fairly often to frequently 'engage in extra effort based on the actions of the leader.

Table 4.7

Mean Scores of MLQ Leadership Behavior

	Rater	Leader
Leadership Dimensions	Mean	Mean
Idealized Influence	3.62	3.00
Inspirational Motivation	3.90	4.00
Intellectual Stimulation	3.06	2.80
Individual Consideration	3.08	3.30
Transformational Leadership	3.42	3.28
Contingent Rewards	3.45	2.30
Management by Exception: Active	0.53	2.30
Management by Exception: Passive	1.10	0.00
Transactional Leadership	1.69	1.53
Laissez-Faire	0.20	0.30
Extra Effort	3.78	2.70
Effectiveness	3.66	3.50
Satisfaction with Leadership	3.70	3.50

Rating Scale: 0= not at all, 1= once in a while, 2 = sometimes, 3 = fairly often, 4 = frequently, if not always

Employee Perception – Rater Form Results (N=5) and Leader self-perception – Leader Form (N=1)

4.4.4 Virtual Technology Incorporated (VTI)

4.4.4.1 Sensing

Around 2005, the Chief Development Officer (CDO) of VTI started to see requirements for process methodologies in a few statements of work from customers. While these requirements did not call specifically for CMMI, he knew that many larger software development competitors were using CMMI. VTI was growing quickly, and both partners knew they had to wait for the right time to institute a process improvement system. In 2006, the CDO began investigating which process reconfiguration methodology would be best for VTI, and a small volunteer team was established to assist the CDO. The team interviewed process reconfiguration service

providers on various methodologies. The providers shared information on best practices with small businesses, pros and cons of implementation, resources required for implementation, level of involvement required, and difficulty of acquiring certification. At that time, very few, if any, small businesses had achieved CMMI certification. This point, coupled with the fact that CMMI was specifically designed for software development projects, influenced the decision for VTI to pursue CMMI as a process reconfiguration.

4.4.4.2 Seizing

While the decision to embark on CMMI as a process reconfiguration initiative was made by one of the owners of VTI (the CDO) and agreed upon by his partner, it was communicated to the rest of the management team at the 2007 strategic planning session as tactical goal for the company. All directors were then asked to submit plans with action items on how they were going to meet the goal of achieving CMMI on their projects.

4.4.4.3 Process Reconfiguration

No special attention was given to or announcement made regarding the process reconfiguration initiative at VTI. The start was announced at the annual strategic meeting to the senior management, and they were responsible for informing their project managers who, in turn, informed their direct reports. According to the CDO, he used the direct method of communicating the process reconfiguration initiative and its value to the employees of VTI:

...if I'm paying you to do this [process reconfiguration], then this is part of your job classification, part of your salary, part of why you were hired...a part of the value in implementing these processes also secures longer contracts, which secures long-term jobs. If you're using processes that happen to be on the cutting edge of where the industry is, you become more marketable.

According to the Director of IT (DIT), not all employees at VTI welcomed the opportunity to pursue the process reconfiguration. They saw it as having more work added to their regular work. Project managers were tasked by the CDO to inform their direct reports of the process reconfiguration effort. While the CDO was officially heading the process reconfiguration, he was not directly involved with the implementation. Most of his communication on the status of the effort was from a threatening point regarding penalties associated with not supporting the effort. Most

communication was done by the Quality Management Group (QMG) through email, biweekly meetings and informal daily phone chats or face-to-face mini meetings.

An initial overview training session was held for employees on projects under the scope of the process reconfiguration. As new processes were rolled out, mini training sessions were held for those directly involved. However, no training was offered to new employees or employees on projects outside the scope of the process reconfiguration. New employees were not knowledgeable of process reconfiguration, and little information was shared on lessons learned among employees.

With the help of the outside subject expert (SE) a QMG steering committee was established. This group consisted of the CDO, a quality management officer (QMO), the Chief Technical Officer (CTO), and project managers. The QMG reported progress status to the senior management team, worked directly with the SE to lead the development of processes, conducted audits for adherence to process implementation, and conducted all training of project groups. This hierarchical organizational structure was not conducive to information sharing on the process reconfiguration. The lack of involvement of QMG practitioners led to processes being developed and then handed down to practitioners for implementation. Without job function knowledge, these processes tend to be heavy and difficult to implement. While practitioners from projects under the scope of CMMI implementation were not part of the QMG, they were tasked as what was called 'Binder Keepers' and were responsible for keeping hard copies of all the process reconfiguration documentation, which was audited by the QMG. Because of this responsibility, the QMG was viewed negatively as having a policing function. Employees viewed the constant manual copying of project documentation as redundant and time consuming. The project managers only did enough to pass an audit and then went back to old processes.

While the CDO acknowledged that the process reconfiguration required a significant budget for acquiring the SE and setting up the totally new quality management unit, it is not clear that the budget was allocated to the appropriate resources. While the QMG was dedicated full-time to the process reconfiguration effort, project managers and other practitioners were not given an overhead budget for release time from direct labour to work on the process reconfiguration, which led to implementation teams not working together to design processes and project leads not getting the cooperation of the technical development team. Even though VTI had an existing IT infrastructure of SharePoint, there was no evidence that it was used for

sharing process reconfiguration knowledge. This could have been due to the requirement of the manual copies of 'Bidder Keeper' system. It was also noted that when the initial QMG members left the company, the positions were left unfilled, and others assumed the additional responsibilities without additional compensation. This configuration led to employee overload, duties not being performed, and eventually discontinuation of process reconfiguration.

4.4.4.4 Outcome

The process reconfiguration took VTI 24 months to achieve CMMI maturity level 2 rating. Two years after certification, VTI is not sustaining the process reconfiguration, although employees noted that they continue to practice certain beneficial processes. Table 4.8 offers examples of process reconfiguration outcomes.

Table 4.8

Illustration of Process Reconfiguration: Reconfiguration of Routines

Routine	Before	After	Outcome
Risk Management	Unstructured and informal	Streamline, formal process, evaluation, categorization and prioritization criteria established	Increased customer confidence and likelihood of contract award. Win rate increased by 20%
Validation and Review	Informal and inconsistent	Formalized peer review board for all deliverables with required sign off	Reduced the number of errors by 27% but increased the delivery time by 10 to 16% from bottleneck created due to more time needed for review and sign
Project Planning	No consistency or format	Formalized with templates, shared in a central depository	Improved resource coordination across the organization and reduced downtime by 12%

4.4.4.5 Leadership Style

The results of the MLQ Survey Rater and Leader Forms imply that the leader believes he 'sometimes' engages in transformational leadership practices, while his employees believe that he 'rarely' engages in transformational leadership practices. The leader's scores as perceived by the employees and as perceived by himself were fairly similar in most of the leadership dimensions, except for individual consideration where the spread was greater than 1, with the manager rating himself higher than did

the employees. The other instance where the spread was greater than 1 was active management by exception, where the employees rated the leader higher than he rated himself in this category. The leader's highest scores as perceived by the employees were for inspirational motivation (3.12), idealized influence (3.10), and intellectual stimulation (2.58). The MLQ Rater results also imply that employees perceive the leader 'sometimes' practices some elements of transactional leadership. The leader scored 3.08 in contingent reward. Evidence from the employees' interviews supports the ratings, as the leader provided some rewards and recognition to the employees. However, the leader had a low score of 0.70 in management by exception passive. In support of this inference, the leader had a score of 0.17 'not at all' in laissez-faire leadership behaviour. The leader's next highest scores were in the dimensions of effectiveness (2.93), extra effort (2.34), and satisfaction with leadership (2.5), which indicated that employees were 'sometimes' satisfied with leadership based on the actions of the leader.

Table 4.9

Mean Scores of MLQ Leadership Behavior

	Rater	Leader
Leadership Dimensions	Mean	Mean
Idealized Influence	3.10	3.30
Inspirational Motivation	3.12	3.00
Intellectual Stimulation	2.58	2.80
Individual Consideration	1.70	2.80
Transformational Leadership	2.63	2.98
Contingent Rewards	3.08	2.80
Management by Exception: Active	2.87	1.50
Management by Exception: Passive	0.70	1.40
Transactional Leadership	2.22	1.90
Laissez-Faire	0.17	0.50
Extra Effort	2.34	2.70
Effectiveness	2.93	3.00
Satisfaction with Leadership	2.50	3.00

Rating Scale: 0= not at all, 1= once in a while, 2 = sometimes, 3 = fairly often, 4 = frequently, if not always

Employee Perception – Rater Form Results (N=5) and Leader self-perception – Leader Form (N=1)

4.4.5 Security Technology Incorporated (STI)

4.4.5.1 Sensing

The CEO of STI admitted that he first became interested in ISO 20000 as a process reconfiguration methodology after he attended a workshop at an industry conference in 2007. He heard from a panel of experts and testimonials from other small companies about the benefits of ISO 20000 as a new process improvement system targeted specifically for Information Technology Service Management companies. The CEO said,

The decision was solely mine. After that conference I did a little more research and I knew ISO 20000 was definitely a match for us...There's only a handful of small businesses in the United States that had that designation and I wanted STI to be among that elite group....

Before STI embarked on its process improvement initiative, it operated an ad hoc version of a process improvement system. The CEO noted that STI had no name for the system; it was just the STI way of doing business. The finance department had its way of doing business, while HR did things its way. The CEO stated that he knew too much duplication occurred across functional areas and many mistakes were avoidable with better communication:

I knew we needed an integrated approach to quality and process improvement that would make sense for us and put the whole company on the same platform. I knew we need a system; I just did not know what system we would implement.

4.4.5.2 Seizing

While the CEO felt that pursuing ISO 20000 was the right thing for STI to do at the time, he also knew it would be a significant challenge for employees: 'I could see how heavy of a lift it was going to be, but the challenge of getting there [ISO Certified] really spoke to me'. STI got into the Department of Defense MPP five months after the conference where the CEO decided that he would like his company to pursue ISO 20000. He pointed out,

We were notified that we got accepted in the program [MPP] in August of 2007. At that time, we had to start building a roadmap to the future, and one of the things that we asked for was assistance to achieve ISO 20000 training and certification.

This program provided financial resources and technical knowledge to assist STI with the implementation of the process reconfiguration process.

4.4.5.3 Process Reconfiguration

The CEO took it upon himself to learn as much as he could about ISO before the company embarked on the process reconfiguration. Since ISO 20000 is specifically targeted to IT service management, he decided that, instead of taking the whole company through the initiative at the same time, he would pilot it with just a few high-profile IT service management projects. His thought was that if the pilot projects experienced success, process reconfiguration would be an easier sell to the rest of the company. STI meeting minutes and status report documents indicated that two separate kick-off meetings were held to announce the process reconfiguration initiative. At the first meeting, the CEO explained what ISO 20000 was, what it would do for the company, what it meant to the company, and how the industry perceives it. The second kick-off meeting was with STI's mentor company and the SE. STI's reasons for pursuing the process reconfiguration initiative and the benefits for STI were stressed. The SE presented an overview of the seven-phase methodology used for development and implementation. These meetings sent a clear message from the leader regarding the importance of the process reconfiguration.

Even though the scope of the process reconfiguration was initially only a few projects, performance evaluation criteria of involvement in and contribution to the process reconfiguration were added for all employees, which further sent the message that the process reconfiguration was important to STI. However, all employees did not readily buy into the process reconfiguration. Some employees asked why they needed to do the process reconfiguration and expressed that they did not have time to do their regular jobs and work on a new process reconfiguration initiative. To address these concerns and win some of these employees over, the CEO frequently attended meetings, had many informal hallway meetings, listened to employees concerns, and provided feedback through email and face-to-face communications. The relaxed, informal atmosphere at STI indicated open-door access to the CEO, which encouraged employees to voluntarily cross train and learn new functional areas. Employees also informally shared lessons learned and best practices with each other.

Employees participated in formal overview training and on-going process training conducted by a lead trainer, with reference material posted to the company's intranet for future reference and on-the-job training whenever a new process was

introduced. An outside SE provided by the MPP facilitated and guided the overall development and implementation of the process improvement system at STI. The implementation management structure consisted of the Implementation Project Team (IPT) lead by the ISO Project Lead (IPL), who reported directly to the CEO, and four project team leaders from HR, finance and accounting, and proposal/contracts, as well as the IT service management project leads. The IPT was responsible for ensuring that the implementation process ran smoothly, developing the overall project plan, identifying team members and their roles and responsibilities for the Process Teams, and reporting status to the CEO and other senior management team members.

Reporting to the IPT were four Process Teams (PT), each consisting of three to four employees from cross functional areas of the company. These PTs were responsible for developing the quality policy and objectives of the organization, establishing the documentation format and guidelines for the organization, determining the scope of process implementation and developing an STI internal audit and continual improvement plan. This flat organization structure made it possible to keep the CEO constantly informed and allowed for quick decision-making. The project lead was able to coordinate the process reconfiguration activities with support business units.

The coordination of cross functional teams was demonstrated in the new processes in which the business development managers worked closely with the technical managers to get quick feedback from customers. These two teams shared information in joint status meetings, which resulted in quicker resolution of customer issues. As a result, a new issue resolution report was created and frequently gave the technical lead more time to resolve issues before they escalated.

While STI received tremendous support from the government-funded MPP, the CEO noted that he still had to commit over \$180,000 to the effort to cover employees' time that would have normally been spent working on projects but was now spent working on overhead as part of the process reconfiguration initiative. He knew he would take a hit in his profitability, but he saw the initiative as investing for future returns. This financial commitment to support a project lead dedicated to the project reconfiguration 95% of the time demonstrated that the CEO was fully behind the effort and motivated employees to do their part in making the effort a success. The available overhead budget allowed others from different functional areas, such as accounting and business development, to willingly participate when called upon without being worried about where their time would be covered. New personnel were

also approved by the CEO when it was pointed out that the new process for proposal development needed a dedicated recruiter responsible for a recommended résumé database system.

The CEO also approved the budget to acquire a new IT infrastructure system that allows for sharing of documents. The new SharePoint system facilitated ease of tailoring the new processes to fit the organization and constantly modifying processes when necessary. Teams shared best practices and were able to learn from each other. For example, the capture management team was now able to share leads with the proposal team before they became full blown requests for proposals, which gave the proposal team more time to better prepare for proposal development.

4.4.5.4 Outcome

From the HR Director's perspective, the process reconfiguration initiative at STI was gruelling because of the various things taking place within the company:

We were growing, expanding, just as we were developing and moving forward with ISO...We were definitely having to shift things around, expend additional hours to commit to getting the effort completed...Our CEO is a task manager who knows very well how to task the team. He sets the expectation, and there's only left to do the work and get the outcome that he is expecting.

The process reconfiguration initiative at STI resulted in the redesign of 12 process routines. Three years after certification, STI is still sustaining its process reconfiguration system, with continual improvements being made to processes as changes occur in the business environment.

When asked to give three examples of process routines that were the most impactful due to their redesign through the process reconfiguration initiative, the ISO project lead highlighted relationship management, quality management, and project execution. The process reconfiguration outcomes are captured in Table 4.10.

Table 4.10

Reconfiguration: Redesign of Routines

Routine	Before	After	Outcome
Relationship Management	Heavily dependent on project managers lower level employees for customer interaction	Streamlined, formal process, shared depository	Increased proposal production by 20%, increased win rate by 12%
Quality Management	Undocumented, semi-automated	Documented, automated	Improved quality performance by 30%, repeatability and consistency
Project Execution	Informal, no employee input, did not meet the intent of activity	Documented, input by both employee and supervisor	Improved employee morale by 26%, increased ownership and buy-in

4.4.5.5 Leadership Style

The results of the MLQ Survey Rater and Leader Forms imply that both the leader and his employees believe he 'fairly often' engages in transformational leadership practices. The leader's scores as perceived by the employees and as the leader perceived himself were fairly similar in all the leadership dimensions. The leader's highest scores as perceived by the employees were for inspirational motivation (3.46), individual consideration (3.08), intellectual stimulation (3.03), and idealized influence (2.95). The MLQ Rater results also imply that employees perceive that the leader 'sometimes' practices some elements of transactional leadership. The leader scored 3.08 in contingent reward. Evidence from the employees' interviews supports the ratings, as the leader provided some rewards and recognition to the employees. However, the leader had a low score of 1.07 in management by exception passive. In support of this inference, the leader had a score of 0.17 'not at all' in laissez-faire leadership behaviour. The leader's next highest scores were in the dimensions of effectiveness (2.93), extra effort (2.34), and satisfaction with leadership (3.1), which indicated that employees were 'fairly often' satisfied with the leadership based on the actions of the leader.

Table 4.11

Mean Scores of MLQ Leadership Behavior

	Rater	Leader
Leadership Dimensions	Mean	Mean
Idealized Influence	2.95	3.30
Inspirational Motivation	3.46	3.00
Intellectual Stimulation	3.03	2.80
Individual Consideration	3.08	2.80
Transformational Leadership	3.13	2.975
Contingent Rewards	3.08	2.08
Management by Exception: Active	2.87	1.5
Management by Exception: Passive	1.07	1
Transactional Leadership	2.34	1.53
Laissez-Faire	0.17	0.05
Extra Effort	2.34	2.7
Effectiveness	2.93	3
Satisfaction with Leadership	3.1	3

Rating Scale: 0= not at all, 1= once in a while, 2 = sometimes, 3 = fairly often, 4 = frequently, if not always

Employee Perception – Rater Form Results (N=5) and Leader self-perception – Leader Form (N=1)

4.5 Narrative Analysis

The following section summarizes the evidence and emerging themes that occurred within and across each case study. Also referenced in this section is the development of a set of statements about the relationships that emerged from the research data. These relationships are stated in the form of potential propositions in the theory of dynamic capability. In keeping with the format of the narratives, the data analysis draws on Teece's (2009) framework of dynamic capability. The following section presents the data analysis with the basic research question in mind: How does leadership behaviour influence sustained process reconfiguration in small firms? The analysis is presented to demonstrate evidence of how leadership actions encouraged or discouraged sustained performance within and across cases in reference to the major elements of the dynamic capability framework.

Using the inductive tool of pattern matching as described in the preceding chapter (Kaplan, 1964; Hunt, 1991), four primary practices of leadership behaviour emerged from the research data: sensing, communication, coordination, and commitment. To facilitate theory development and intellectual dialogue, the following definitions are presented.

4.5.1 Sensing

'Sensing' is the ability to spot, interpret and pursue opportunities in the environment. In addition, 'sensing' is the analytical systems (and individual capacities) needed to learn, filter, shape and calibrate opportunities, which creates the processes to identify target market segments, changing customer needs, and customer reconfiguration (Teece, 2009).

4.5.2 Communication

'Communication' refers to conveying information and imparting or interchanging thoughts, opinions, or knowledge by speech, writing, or sign. The ultimate aim of communicating by the organization leaders is to influence attention focus (Cyert, 1990).

4.5.3 Coordination

'Coordination' is the ability to orchestrate, deploy, and integrate tasks, resources, and activities. Coordination enables actors to make aligned plans and decisions and undertake consistent actions. Communication facilitates coordination, since sharing of information is required for consistent actions (Taylor and Helfat, 2009)

4.5.4 Commitment

'Commitment' is defined as the act of pledging or engaging a course of action. As used in this section, 'commitment' refers specifically to commitment of financial budget, human resources and leadership time and involvement (*Webster Online Dictionary*, 2012).

4.5.5 Sensing

Evidence across all cases suggested that leaders performed sensing activities, such as scanning, searching and exploring across technologies, markets, and industries, both 'local' and 'distant' (March and Simon, 1958; Nelson and Winter, 1982), in deciding to embark on the process reconfiguration initiative. This point was further supported by evidence showing leaders of both sustained and dissipated performance cases conducted sensing activities like gathering information, assessing stakeholders' needs, and balancing those with a strategic outlook for the organization. An illustrative example of sensing exists in the case of the DST leader:

Looking at what the government [was] requiring on some of their contracts, and just discussion around with some of the industry experts, like Washington Tech and Gartner Group, we learned that ISO was the standard that was going to be required and used to differentiate the different service providers who

support the government. So it was a combination of market research and just going through that whole process, working with our mentor and working with the Air Force sponsor to see what was important to them and what they're trying to achieve as an organization from the mission standpoint. (personal communication, CEO, DGT, November 10, 2011)

Evidence pointed to the leader (i.e., entrepreneur/manager) as the primary actor to first identify a need for process reconfiguration as a response to changing customer needs. This involves first learning of the opportunity and interpreting the significance of the opportunity. The data showed that all case leaders performed repeated actions to learn, sense, filter, and shape the opportunity to pursue the process reconfiguration. However, it was noted that even though these actions were initiated by the leaders, they often shared the insight of opportunity with other leaders of the organization and sought their input very shortly after opportunity recognition.

Evidence showed that when others were involved and leader behaviour supported practices to influence on-going sensing activities of monitoring external competitive environments, companies sustained their process reconfiguration outcomes more often than when they relied on the leader as the sole individual performing the sensing activity. These on-going sensing activities included providing 'in-company' libraries of industry journals and magazines, having a required reading list of industry-related books with these books, making book discussion a permanent agenda item at management meetings, and providing a budget for managers to attend industry conferences and trade shows.

4.5.6 Seizing

The second element in Teece's (2009) dynamic capability framework is that of 'seizing', defined as the organization's ability to develop structures, procedures, design, and incentives for capturing opportunities identified by the sensing activities. Seizing activities involve making the financial investment decision to pursue the identified opportunities. While it was evident across all cases that the case leaders were also the owners of their organizations and did not have to consult with a committee or board for approval of financial commitment to the process reconfiguration, the lack of readily available financial capacity delayed the execution of the process reconfiguration. The financial investment was a huge decision factor, and in all cases but one, the leader pursued the opportunity to participate in an external program and made the process reconfiguration initiative a priority to get

financial and intellectual resources to execute the initiative. Even with external financial assistance, the leader's ability to fully commit resources to support the process reconfiguration before and after certification impacted the organizations' ability to sustain the reconfiguration. An example was evident at ATS, where the process reconfiguration was sustained:

Financial support is absolutely necessary...So if three people have to be on overhead for a week, or five people have to be taken off for a billable program for a week [to work on the process initiative], you say yes. It is sometimes a little bit difficult to do for the organization's revenue targets but necessary if this is important...So financial support or the willingness to lose the revenue during the [process reconfiguration] period is probably the most important thing that I did. (personal communication, CEO, ATS, September 19, 2011)

In cases where the process reconfiguration dissipated, it was evident that the leaders did not fully understand the financial investment required to seize and sustain the process reconfiguration. ENT was such an example, and the CEO made the following statement:

I saw my profitability go down and my overhead rate went up...from an economics perspective, it scared me away. Because you're looking at profitability going down for a long period of time, and then you haven't seen the results of the [process reconfiguration]...We had to back people off the project [process reconfiguration]. (personal communication, CEO, ENT, September 20, 2011)

4.5.7 Reconfiguration

The third element of the dynamic capability framework (Teece, 2009) is managing threats and reconfiguration. According to Teece (2009), reconfiguration involves business model redesign as well as asset-realignment activities and the revamping of routines to address rapidly changing environments. Dynamic capability consists of patterned and somewhat practiced activity (Winter, 2003). To qualify as a capability rather than simply ad hoc problem solving, dynamic capability must contain patterned elements and is further differentiated from operational capabilities that enable a firm to perform on-going tasks required to make a living (Dosi, Nelson, and Winter, 2000). Given that the unit of analysis for this research was an episode of process reconfiguration, the research data provided evidence from 55 redesigned operational processes across all five cases. 'Processes' are a systematic series of

actions directed toward some specific end that take place in a definite, repeatable manner, with a particular objective (Helfat et al, 2007). Examples of operational processes that were changed over the process reconfiguration episode included quality management, organizational training, requirements development and management, proposal development, project execution, and software testing processes.

4.5.8 Communication

It was discovered that leaders of organizations that sustained their process reconfiguration repeatedly communicated a clear vision of the importance of the process reconfiguration, both internally and externally. These leaders frequently communicated through email, phone conversations, formal meetings, and informal hallway meetings. It was demonstrated that leaders of sustained performance communicated by 'role modelling': the leaders' actions clearly represented the ideas he/she considered important. The evidence also showed that leaders of organizations with sustained process reconfiguration also made participating in the initiative a criteria on employees' performance evaluations. This reward system is another way of reinforcing the attention focus of the employees (Cyert, 1990). An example of the influence of leaders communicating to sustain performance is given below:

Our CEO will physically attend the meetings. That's number one. Number two, if she didn't physically attend the meeting, she will request someone to be taking notes in any meeting. There's always meeting minutes. So she might ask for a copy of it, and then she might use the feedback from that. She'll send it back, and she copies everybody on it so we know what's going on. And she'll say, 'Hey, Randy, as the quality manager I saw that we got a report on this or that. It looks great. Really like it. Do you think you can add this to it?' Or, 'Do you think you can add that or develop something different that this report will feed in to'. I mean, she keeps us engaged.... And then once we give her the reports – a lot of managers, a lot of upper management, once you give them a report you never hear from them again. You don't know what happened with the report. You don't know if you need to improve on it. You just don't know. So you keep doing the same thing. She'll come back to you and she'll say, 'You've done a great report. We used this report for this or that'. So you understand what the report is doing and how it affects you. (personal communication, Process Improvement Manager, ATS, September 19, 2011)

On the other hand, while leaders of organizations where process reconfiguration dissipated usually made attempts to communicate the vision and importance of the process reconfiguration, the message was not clear and not well received by employees. It was found that in all the cases where process reconfiguration dissipated, process reconfiguration was not made an item on employees' performance evaluation.

Well, one day, I was called into the CEO's office and was told that ENT will be pursuing CMMI [process reconfiguration] and I was in charge of leading the effort...I didn't really know anything about CMMI and not quite sure how it was going to help the company, other than it was going to help us win more contracts.... (personal communication, Process Reconfiguration Lead, ENT, September 20, 2011)

Leaders of sustained process reconfiguration organizations also showed evidence of communicating by acts of sharing and transferring knowledge for the process reconfiguration, which was accomplished directly or indirectly through coaching and providing opportunities for formal and informal training. These practices motivated employees to have a positive attitude toward the process reconfiguration. Employees voluntarily cross-trained to learn new functional areas and informally shared lessons learned and best practices with their colleagues. Employees also participated in formal training of new processes. Examples of communicating through sharing and transferring of knowledge are demonstrated in examples from ATS and STI:

As one project team has success we talk about how they achieved that and highlight the value of process reconfiguration involved at our quarterly management meetings..... Every project [marketing, accounting, technical delivery] shared lessons learned on our company intranet for everyone to access. So when a particular project has an issue I encourage them to first check the lessons learned folder on the intranet, more than likely another project had the same issue. (personal communication, CEO, ATS, September 19, 2011; Meeting minutes, quarterly review, April 2011)

We had a total of 16 on-job-training workshops for each new process, as well as three individuals receiving technical certification training in ITIL foundation service manager training. (personal communication, CEO, STI, September 21, 2011; STI Implementation Plan document, March 16, 2010)

4.5.9 Coordination

Leaders who practiced repeated coordination of resources to structure temporary cross-functional teams also authorized dedicated teams with specific responsibilities and created flat organizational structures with easy access to the leader and encouraged employees to learn individually and share information among and between functional groups. Examples are demonstrated in the case of DGT, ATS and STI, where the process reconfiguration was sustained.

They cross train very well here...like for order fulfillment that I do, for example, I'm not the only person who knows how to process purchase orders. So if I'm swamped...there's at least two or three other people who know the process... somebody else can pick this up so that things don't fall behind. (personal communication, Project Analyst, DGT, October 4, 2011)

Pretty much everyone involved with the [process reconfiguration] attended a one-day orientation class, a three-day introductory class, and workshops on each process area they were involved with. As the project lead for the initiative, I went out on my own to the web and got a lot of good information, which I shared with the rest of the team. Our company also purchased many of the books that were recommended by the outside consultant, and we created a physical library for employees. All new employees must attend an orientation class on our process reconfiguration, and whenever processes change, an email notice is sent out to all employees. Those affected by the change receive some form of training' (personal communication, Process Improvement Program Manager, ATS, September 19, 2011; ATS Implementation Plan, September 18, 2010)

We were definitely having to shift things around, expend additional hours to commit to getting the effort [process reconfiguration] completed....Our CEO is a task manager who knows very well how to task the team. He sets the expectation, and there's only left to do the work and get the outcome that he is expecting...It took a certain energy, which the CEO has, to help us to succeed in the process initiative. (personal communication, Director Human Resources, STI, September 21, 2011)

The process reconfiguration dissipated in cases in which the leaders did not coordinate the cross functional teams but created a hierarchical organizational

structure; limited informational sharing and joint planning occurred. This point is illustrated in the example below:

The actual people performing the task were not part of the implementation team...it was after we were well into the [process reconfiguration initiative] when the project lead would reach out to some of us that were actually doing technical work...I was one of those and another woman who no longer works here, they would come to us for, like, okay, if we're implementing a process where we have to do requirements management, can you help us? Do you have any thoughts on how that process works? (personal communication, IT Director, VTI, September 22, 2011)

4.5.10 Commitment

'Commitment activities' as they relate to reconfiguration refer primarily to financial commitment of overhead budget and investments of IT infrastructure, as mentioned in the discussion of seizing. Evidence suggests that repeatable patterns of leaders not committing financial resources to support the change initiative results in unsustained process reconfiguration, as in the case of ENT and VTI. In cases where leaders repeatedly expressed commitment to the process reconfiguration effort in meetings and written emails but did not follow through with the commitment of resources, such as overhead budget to allow personnel on direct customer charge contract time to fully dedicate themselves to the process reconfiguration effort, mixed messages were sent to the employees. Employees became frustrated and were not motivated to follow through on the new processes. Employees stopped attending meetings, did not implement the new processes on their projects, and went back to doing things the old way, as illustrated in the following example:

Our QMO is gone, and we don't have people to do the work to keep up the process initiative...I try to do things on my end to keep the system up but my plate is pretty full so things are not done the way they should be done. (personal communication, Director IT Solutions, VTI, September 22, 2011)

It's difficult to share best practices when you don't have an automated tool to facilitate the process. The leaders talked a lot about getting a tool but that has not happened as yet...We always say if thing ever slow down... we'll sit down and really brainstorm what we want to accomplish in the future to better share information. We tried biweekly meetings, where we talked about

how it would happen but people fell off and couldn't attend. (personal communication, Lead Developer, ENT, September 20, 2011)

In the cases of DGT, ATS, and STI, repeatable patterns of leaders committing financial resources to support IT infrastructure and HR or monetary incentives and rewards resulted in sustained process reconfiguration. In these cases, where the process reconfiguration was sustained, financial investment was made to procure an internal IT system that allowed employees to share information and best practices. These collaborative tools, such as SharePoint, Rally, and QMS Wiki, enable employees to learn from each other as individuals and teams. This information sharing resulted in reduction of rework, faster production time, and access to what others were doing in the organization. With these direct benefits, employees were self-motivated and intellectually stimulated to continue support of the process reconfiguration. Employees provided feedback and made continuous changes to the processes as new requirements arose, as noted below:

As one project team has success, we talk about how they achieved that and highlight the value of process reconfiguration involved at our quarterly management meetings. Every project [marketing, accounting, technical delivery] shared lessons learned on our company intranet for everyone to access. So when a particular project has an issue, I encourage them to first check the lessons learned folder on the intranet; more than likely another project had the same issue. (personal communication, CEO, ATS, September 19, 2011; Meeting Minutes, Quarterly Review, April 2011)

4.5.11 Leadership Style

As illustrated in Table 4.12 the results of the MLQ survey compared to the outcome of process reconfiguration indicated that employees of organizations with sustained process reconfiguration perceived their leaders as practicing more of a transformational leadership style. In other words, these leaders motivate, reward, and influence their employees and provide intellectual stimulation and individual consideration. On the other hand, employees of organizations where the process reconfiguration dissipated usually after certification was attained; perceived their leaders as practising less transformational and more transactional leadership style.

Table 4.12

Summary of Leadership Style to Process Reconfiguration

Case	Leadership Style	Process Reconfiguration
DGT	Transformational	Sustained
ENT	Transactional	Unsustained
ATS	Transformational	Sustained
VTI	Transactional	Unsustained
STI	Transformational	Sustained

4.6 Summary of Findings

For clarity and convenience, the findings of the research are summarized in Table 4.13.

4.7. Summary of Chapter Four

This chapter presented the results of the case studies in rich, thick narrative by drawing on the elements of Teece's (2009) dynamic capabilities framework. For ease of understanding and logical theoretical development, the data analysis and summary of findings from the cases were then presented. The following chapter uses these findings to develop a theory linking leadership behaviour and strategic change.

Table 4.13

Summary of Findings: Leadership to Dynamic Capabilities

Key Observations			
Proposition	Sustained Reconfiguration	Dissipated Reconfiguration	Illustrative Supporting Evidence
<p>1. Leadership sensing capabilities in small firms is positively associated with the outcome of process reconfiguration.</p> <p>Information gathering, assessing stakeholders' needs, strategic outlook, disseminating information</p>	<p>Leaders performed sensing activities and committed resources to scanning activities such as gathering, filtering and assessing information.</p> <p>Leaders instituted processes that allowed others in the organization to participate in this function.</p>	<p>Leaders performed some sensing activities and committed resources to scanning activities, such as gathering, filtering and assessing information.</p> <p>Leaders did not institute processes that allowed others in the organization to participate in this function.</p>	<p>Looking at what the government (customer) was requiring on some of their contracts, and just discussion around with some of the industry experts, like Washington Tech and Gartner Group. We learned that ISO was the standard that was going to be required and used to differentiate the different service providers that support the government. So it was a combination of market research and just going through that whole process, working with our mentor and working with the Air Force sponsor to see what was important to them and what they're trying to achieve as an organization from the mission stand-point. (personal communication, CEO, DGT, September 9, 2011)</p>

Table 4.13 (continued)

Key Observations			
Proposition	Sustained Reconfiguration	Dissipated Reconfiguration	Illustrative Supporting Evidence
<p>2. Leadership commitment capability in small firms is positively associated with the outcome of process reconfiguration.</p> <p>Financial budget, time, human resources, it infrastructure</p>	<p>Leaders fully committed to financial investment through certification and beyond.</p>	<p>Leaders partially committed to financial investment and/or did not follow through on financial commitment.</p>	<p>Financial support is absolutely necessary... So if three people have to be on overhead for a week, or five people have to be taken off for a billable program for a week [to work on the process initiative], you say yes. It is sometimes a little bit difficult to do for the organization's revenue targets, but necessary if this is important...So financial support or the willingness to lose the revenue during the [process reconfiguration] period is probably the most important thing that I did. (personal communication, CEO, ATS, September 19, 2011)</p> <p>Our QMO [Quality Management Office] is gone and we don't have people to do the work to keep up the process initiative...I try to do things on my end to keep the system up but my plate is pretty full so things are not done the way they should be done. (Interview, Director IT Solutions, VTI, September 30, 2011)</p>

Table 4.13 (continued)

Key Observations			
Proposition	Sustained Reconfiguration	Dissipated Reconfiguration	Illustrative Supporting Evidence
<p>3. Leadership communicating capability in small firms is positively associated with the outcome of process reconfiguration.</p> <p>Formal/informal meetings, email, provide feedback, open-door policy</p>	<p>Leaders continuously shared the vision, motivated employees, provided awards and rewards and intellectually stimulated and influenced employees through communication and role modelling.</p>	<p>Leaders failed to continuously share the vision, motivate employees, provide awards, intellectually stimulate and influence employees.</p>	<p>Our CEO will physically attend the meetings. That's number one. Number two, if she didn't physically attend the meeting, she will request someone to be taking notes in any meeting. There's always meeting minutes. So she might ask for a copy of it, and then she might use the feedback from that. She'll send it back, and she copies everybody on it so we know what's going on. And she'll say, 'Hey, Randy, as the quality manager I saw that we got a report on this or that. It looks great. Really like it. Do you think you can add this to it?' Or 'Do you think you can add that or develop something different that this report will feed in to'. I mean, she keeps us engaged.... (personal communication, Process Improvement Manager, DGT, October 20, 2011)</p>

Table 4.13 (continued)

Key Observations			
Proposition	Sustained Reconfiguration	Dissipated Reconfiguration	Illustrative Supporting Evidence
<p>4. Leadership coordinating capability in small firms is positively associated with the outcome of process reconfiguration.</p> <p>Sharing/transfer of knowledge, cross functional teams, formal training, informal on the job training</p>	<p>Leaders coordinated sharing/transfer of knowledge through cross functional teams, financial commitment of IT infrastructure and formal and informal training.</p>	<p>Leaders coordinated hierarchal silos and did not commit to financial investment of IT infrastructure, which hindered sharing/transfer of knowledge.</p>	<p>As one project team has success we talk about how they achieved that and highlight the value of process reconfiguration involved at our quarterly management meetings. Every project [marketing, accounting, technical delivery] shared lessons learned on our company intranet for everyone to access. So when a particular project has an issue I encourage them to first check the lessons learned folder on the intranet, more than likely another project had the same issue. (personal communication, CEO, ATS, September 19, 2011; Meeting Minutes, Quarterly Review, April 2011)</p> <p>The actual people performing the task were not part of the implementation team... it was after we were well into the [process reconfiguration initiative] when the project lead would reach out to some of us that were actually doing technical work. (personal communication, IT Director, VTI, September 22, 2011)</p> <p>Results of MLQ Leadership Self and Rater Survey, October 2011 compared to process reconfiguration sustainability reported by the firm.</p>

Table 4.13 (continued)

Key Observations			
Proposition	Sustained Reconfiguration	Dissipated Reconfiguration	Illustrative Supporting Evidence
<p>5. Transformational leadership style positively influence sustained process reconfiguration.</p> <p>Motivate, reward, influence, individual consideration, intellectual stimulation</p>	<p>Leaders practised mostly transformational leadership style with some transactional style.</p> <p>Change appears continuous.</p>	<p>Leaders practised less transformational style and more transactional leadership style.</p> <p>Change appears episodic.</p>	<p>Our CEO will applaud us when we've done something, 'Great job. Good work. I figured you did this. And she'll say, 'Hey, Dora, as the quality manager I saw that we got a report on this or that. It looks great. Really like it. Do you think you can add this to it?' ...Anyone who sends in a suggestion for process improvement that gets implemented received a gift certificate to the local restaurant. (personal communication, Process Improvement Project Manager, DGT, October 20, 2011)</p> <p>We had a total of 16 on-job-training workshops for each new process, as well as 3 individuals receiving technical certification training in ITIL foundation service manager training'. (personal communication, CEO, STI, September 21, 2011; STI Implementation Plan document, March 16, 2010)</p>

Table 4.13 (continued)

Key Observations			
Proposition	Sustained Reconfiguration	Dissipated Reconfiguration	Illustrative Supporting Evidence
6. Transformational leadership style enables explorative team learning.	Appears as if single loop feed-forward learning is taking place.	Appears as if single loop feedback learning is taking place.	You need project managers and team lead who knows the new processes and who has the knowledge to ...flow downhill to the rest of the team...if your team lead doesn't understand the PI then the whole team will not get it and it will fail. (personal communication, Lead Developer, ENT, September 20, 2011)
7. Transactional leadership style enables exploitative team learning.			As one project team has success we talk about how they achieved that and highlight the value of process reconfiguration involved at our quarterly management meetings. Every project [marketing, accounting, technical delivery] shared lessons learned on our company intranet for everyone to access. So when a particular project has an issue I encourage them to first check the lessons learned folder on the intranet, more than likely another project had the same issue. (personal communication, CEO, ATS, September 19, 2011; Meeting Minutes, Quarterly Review, April 2011)
8. Ambidextrous leadership style enables explorative and exploitative team learning.	Appears as if double-loop learning is taking place		

Chapter 5 – Literature Reappraisal and Theory Development

5.1 Introduction

The purpose of this chapter is to address the main objective of this study: to build a theory explaining the link between leadership behaviour and strategic change. This chapter discusses and builds theory from the data presented in the previous case narrative chapter. Theories such as dynamic capabilities (Helfat et al, 2010; Teece, 2009), process reconfiguration (Winter, 2003; Cyert and March, 1963), and transformational leadership are identified from the previous literature review chapter. To gain a deeper understanding of the new themes that emerged from the data, an additional review of relevant literature was conducted. These concepts were used to organize, analyse, and build theory from the data.

5.2 Literature Reappraisal

According to Eisenhardt (1989), an essential feature of theory-building is comparison of the emergent concepts, theories or hypotheses with the extant literature. This process involves asking what the emergent theory is similar to, what it contradicts, and why. Examining literature that conflicts with the emergent theory and literature discussing similar findings is important because it ties together underlying similarities in the phenomena normally not associated with each other. The result is often a theory with stronger internal validity, wider generalizability and higher conceptual level (Eisenhardt, 1989). Eisenhardt further pointed out that while linking results to the literature is important in most research, it is particularly crucial in theory-building research because the findings often rest on a limited number of cases.

5.2.1 Dynamic Capabilities

Chapter 3 noted that despite over a decade of research on dynamic capabilities, important conceptual issues remain uninvestigated. In a recent article, Helfat and Winter (2011) called attention to critical unresolved issues regarding the distinction between dynamic and operational capabilities, pointing out that the line between dynamic and operational capabilities is blurred since (1) change is always occurring, at least to some extent; (2) dynamic capabilities often support far from radical change in the short run and not necessarily in rapidly changing environments; and (3) some capabilities can be used for both operational and dynamic purposes. They went on to state that dynamic capabilities are not restricted to new-to-the world businesses, fast-paced environments or what is perceived as radical change, as

postulated by Teece et al (1997). Firms can use dynamic capabilities to extend or modify how they make a living in many ways, including those for conducting acquisitions, alliances, and new product development (Winter, 2003; Helfat et al, 2007; Iansiti and Clark, 1994; Helfat 1997; Dosi et al, 2000; Eisenhardt and Martin 2000).

On the other hand, Di Stefano, Peteraf, and Verona (2010) pushed the conversation of dynamic capabilities a bit further by suggesting that it is time to address the fundamental divide of the two leading schools of thought on dynamic capabilities framework, mainly that of Teece et al (1997) and Eisenhardt and Martin (2000). They are not only inconsistent with one another but also in opposition over their conceptualization of dynamic capabilities. Di Stefano et al (2011) suggested that there may be a hierarchy of types of dynamic capabilities, and regardless of the level of market dynamism or the nature of dynamic capabilities, dynamic capabilities may enable firms to attain sustainable competitive advantages.

Sirmon and Hitt (2010) presented similarities and complementary elements of the asset orchestration framework, where the concept of managerial capabilities was first presented (Helfat et al, 2007) and the resource management framework (Sirmon and Hitt, 2010). The comparison emphasised the importance of managerial action on resource orchestration occurring across the breadth, life cycle, and depth of the firm, showing that it is equally important to know what resources a firm has and how these resources are deployed.

5.2.2 Transformational Leadership

Transformational leadership style continues to be of much interest to researchers. Recent studies have examined the relationship of transformational leadership, relationship quality, and employee performance. Carter et al (2012) found that transformational leadership involving employees in problem solving to accomplish change goals and promote positive change consequences. Similarly, transformational leadership was found to foster performance information use (Moynihan, Pandey, and Bradley, 2011) and to increase performance of sales and revenue in call center employees (Grant, 2012). Research also continues to show transformational leadership enabling creativity and innovation (Cheung and Wong, 2011).

5.2.3 Leadership and Organizational Learning

The leadership and organizational learning literature review in Chapter 2 presented research asserting that leadership and organizational learning are both fundamental to effective organizational functioning (Berson et al, 2006; Jansen et al, 2009; Yukl, 2009). Several studies have found that when top leadership exercise a transformational style, radical learning is encouraged (Berson et al, 2006; Jansen et al, 2009; Vera and Crossan, 2004), which facilitates exploratory learning. When top leadership exercise a transactional style, it facilitates learning that reinforces existing practices and exploitative learning (Jansen et al, 2009; Vera and Crossan, 2004). More recent studies have pointed to how combined transactional and transformational leadership styles, referred to as ambidextrous leadership, facilitate both exploitative and exploratory learning in different situations. Such an ambidextrous capacity among leaders permits them to perform leadership roles differently, depending on the situation at hand. This flexible approach to leadership style has proven effective in facilitating different learning processes at different times in the organizational process change management (Sun and Anderson, 2011; Bucic, Robinson, and Ramburuth, 2010; Sanders and Davey, 2011).

5.2.4 Summary

The purpose of the above section was to re-examine the stream of literature in light of the relevant themes that emerged from the research data. Recent studies continue to examine the dynamic capabilities framework as hidden or invisible (Itami, 1987), complex and tacit (Dierickx and Cool, 1989), or difficult to observe (Simonin, 1999). Others have argued that dynamic capabilities are tautologically linked to performance (Priem and Butler, 2001; Williamson, 1999). Recent studies continue to attempt to answer these challenges and present viable explanations, such as clearer definitions for dynamic and operational capabilities (Helfat and Winter, 2011) or a meta-model approach (Stefan et al, 2011). The leadership and organizational learning literature continues to make great strides in strengthening the understanding of the influence of leadership behaviour and organizational learning. However, a need remains for better understanding of the combined relationship between leadership and organizational learning within the dynamic capabilities framework. To this end, the discussion below presents the extension of the findings of this research as components of a proposed theory.

5.3 Theory Development

This section makes a number of statements that summarize what is novel about the research findings. While similar observations have been made individually by other researchers, their juxtaposition suggests the foundation of a new theory. Scholars working in the dynamic capabilities tradition have often focused on organizational capabilities that enable firms to adapt to change and, thus, possess competitive advantage (Zallo and Winter, 2001; Sirmon et al, 2010; Helfat and Winter, 2011; Eisenhardt and Martin, 2000). Less research, however, has explored human leadership behaviours inside the firm that create and sustain an advantage or the ways capabilities are formed. This type of investigation might shed some light on why some firms with the same capabilities in similar environments seem to sustain high performance and, thus, competitive advantages, while performance in other firms seems to dissipate and competitive advantages are not sustained.

Most dynamic capabilities scholars agree that management plays a distinctive role in selecting and developing routines, making investment choices, and orchestrating nontradeable assets to achieve efficiencies and appropriate returns from reconfiguration (Helfat, 2000; Augier and Teece, 2009; Teece et al, 1997; Adner and Helfat, 2003; Holcomb et al, 2009). This is in direct contrast to economic theorists who tend to ignore the role of management in the economic theory of the firm (Coase, 1988). While the concept of dynamic managerial capabilities is offered by Helfat and colleagues (Alder and Helfat, 2003; Helfat et al, 2007; Helfat and Winter, 2011) as a possible source of heterogeneity in the dynamics capability framework, it appears to focus on explaining the source of technical and evolutionary fitness. Teece (2009) argued that 'entrepreneurial fitness', or the role of the entrepreneur/manager, is the essence of dynamic capabilities and is critical to the theory of strategic management. While Teece (2007, 2009) introduced the concept of entrepreneurial fitness, he was evasive regarding how entrepreneurial fitness would occur within the dynamic capabilities framework. Recent studies by dynamic capabilities scholars (Holcomb et al, 2009; Sirmon et al, 2010; Helfat and Winter, 2011) seem to have neglected the concept of entrepreneurial fitness.

The primary purpose of this study is to explore the link between leadership behaviour and strategic change in sustained high performing small firms using inductive theory-building. To this end, the findings of this research are presented below as a possible theory explaining the link between leadership behaviour (i.e.,

practices and styles) and organizational learning and their combined influence on entrepreneurial fitness within the dynamic capabilities framework (see Table 5.1).

Table 5.1

Theory-building: Data Supporting Dynamic Leadership Capability Across Cases

Theme	Illustrative Supporting Evidence	Theory
Sensing -Information gathering -Assessing stakeholders' needs -Strategic outlook -Disseminating information	<p>1: 'Looking at what the government [was] requiring on some of their contracts, and just discussion around with some of the industry experts, like Washington Tech and Gartner Group. We learned that ISO was the standard that was going to be required and used to differentiate the different service providers and that support the government. So it was a combination of market research and just going through that whole process, working with our mentor and working with the Air Force sponsor to see what was important to them and what they're trying to achieve as an organization from the mission standpoint'. (personal communication, CEO, DGT, September 8, 2011)</p> <p>2: 'We thought PI [process improvement] would help distinguish us from some of our competitors.... So the primary decision was to create a distinction for ATS from our competitors ... As we did the exploration around, we did not pursue PI initially because it was cost-prohibitive.... As we were pursuing growth as a defense contractor, that means to go from becoming a subcontractor to a prime contractor and many of the opportunities that we saw in the government for prime contracting for larger engagements required that certification...So anticipating that we would be there one day, it began to surface on my radar that that was an important goal for us to achieve, if we could figure out how to pay for it'. (personal communication, CEO, ATS, September, 19, 2011)</p>	Sensing: Dynamic Capability (Teece, 2009) Organizational Learning (Argyris and Schon, 1978)

Table 5.1 (continued)

Theme	Illustrative Supporting Evidence	Theory
Sensing -Information gathering -Assessing stakeholders' needs -Strategic outlook -Disseminating information	<p>3: 'I was at a [national industry] conference in Daytona Beach – maybe three, almost four years ago now...at one of the workshops, I heard a competitor talking through ISO 9000, and the benefits to his company and how he was also going after CMMI Level 3 at that time...he spoke and I listened to that and I was like, "Wow, that's some good stuff," that is something I think my company can use...I also learned that obtaining the PI would set my company in a very elite group...We wanted to be one of the first small companies to get this certification. (personal communication, CEO, STI, September 21, 2011)</p> <p>4: 'We had an in-house process that we were using and we were comfortable with; however, the government started to mandate CMMI as a standard...When we looked at CMMI, we looked at how we would go about doing it, and we said this is the right one for us, doing system development and software engineering that we could follow a consistent process...And it's been an issue on certain projects where the customer have said we are not going to follow CMMI here, and we were told we could not. And other projects say we need to, so we will. But if the government says, no, I'm not going to follow it, our hands are tied because they're our customers'. (personal communication, CEO, ENT, September 20, 2011)</p>	Sensing: Dynamic Capability (Teece, 2009) Organizational Learning (Argyris and Schon, 1978)
Sensing -Information gathering -Assessing stakeholders' needs -Strategic outlook -Disseminating information	<p>5: 'We were thinking of getting into the federal space and ... and was looking at how we could make ourselves a little bit more competitive...We saw that DoD was requiring CMMI. So we kind of just jumped on the bandwagon... At the time that we were investigating, very few, if any, small businesses had any kind of certification with CMMI....So those were the two driving factors that kind of got us in, market trends and just wanting to be better'. (personal communication, CEO, VTI, August 18, 2011)</p>	Sensing: Dynamic Capability (Teece, 2009) Organizational Learning (Argyris and Schon, 1978)

Table 5.1 (continued)

Theme	Illustrative Supporting Evidence	Theory
Committing -Financial -Time -Human resources -IT infrastructure	<p>1: 'Financial support is absolutely necessary...So if three people have to be on overhead for a week, or five people have to be taken off for a billable program for a week [to work on the process initiative], you say yes. It is sometimes a little bit difficult to do for the organization's revenue targets, but necessary if this is important...So financial support or the willingness to lose the revenue during the (process reconfiguration) period is probably the most important thing that I did'. (personal communication, CEO, ATS, September 19, 2011)</p> <p>2: 'The CEO made sure that every single person that works at DGT has what they need to do their job. The number one thing we need to do our job is access to the intranet, either a work desktop computer or a laptop. And she provided everyone with up-to-date laptops and also updated all the software on those that had laptops that were working like in Vista. So we all went to Windows 7'. (personal communication, Process Improvement Project Manager, DGT, January 7, 2011)</p>	Seizing: Dynamic Capability (Teece, 2009)
Committing -Financial -Time -Human resources -IT infrastructure	<p>3: 'I saw my profitability go down and my overhead rate went up, and I'm like what? And when we really looked at it, we were like, oh, this is where these folks are spending their time...from an economics perspective, it scared me away. Because you're looking at profitability going down for a long period of time, and then you haven't seen the results of the (process reconfiguration)...We had to back people off the project (process reconfiguration)'. (personal communication, CEO, ENT, September 20, 2011)</p> <p>4: 'I wish we had a software tool to help me manage our process initiative better. The way that we implemented our (process reconfiguration) is very kind of manual and this makes it difficult to manage the different versions of project files and documentation'. (personal communication, Lead Developer, ENT, September 20, 2011)</p> <p>5: 'Our QMO [Quality Management Office] is gone and we don't have people to do the work to keep up the process initiative...I try to do things on my end to keep the system up but my plate is pretty full so things are not done the way they should be done'. (personal communication, Director IT Solutions, VTI, September 22, 2011)</p>	Seizing: Dynamic Capability (Teece, 2009)

Table 5.1 (continued)

Theme	Illustrative Supporting Evidence	Theory
Coordinating -Sharing/transfer of knowledge -Cross functional teams -Formal training -Informal (on the job)	<p>1: 'Pretty much everyone involved with the [process reconfiguration] attended a 1-day orientation class, a 3-day introductory class, and workshops on each process area they were involved with. As the project lead for the initiative, I went out on my own to the web and got a lot of good information which I shared with the rest of the team. Our company also purchased many of the books that were recommended by the outside consultant and we created a physical library for employees. All new employees must attend an orientation class on our process reconfiguration and whenever processes change an email notice is sent out to all employees. Those affected by the change receive some form of training'. (personal communication, Process Improvement Program Manager, ATS, September 19, 2011; <i>ATS Implementation Plan</i>, September 18, 2010)</p> <p>2: 'They cross train very well here...like for order fulfillment that I do, for example, I'm not the only person who knows how to process purchase orders. So if I'm swamped...there's at least two or three other people who know the process... somebody else can pick this up so that things don't fall behind'. (personal communication, Project Analyst, DGT, October 4, 2011)</p>	<p>Reconfiguration: Dynamic Capability (Teece, 2009);</p> <p>Dosi et al, 2000</p> <p>Organizational Learning (Argyris and Schon, 1978)</p>

Table 5.1 (continued)

Theme	Illustrative Supporting Evidence	Theory
Coordinating -Sharing/transfer of knowledge -Cross functional teams -Formal training -Informal (on the job)	<p>3: 'We were definitely having to shift things around, expend additional hours to commit to getting the effort [process reconfiguration] completed...Our CEO is a task manager who knows very well how to task the team. He sets the expectation, and there's only left to do the work and get the outcome that he is expecting...it took a certain energy, which the CEO has to help us to succeed in the process initiative'. (personal communication, Director Human Resources, STI, September 21, 2011)</p> <p>4: 'The actual people performing the task were not part of the implementation team... it was after we were well into the [process reconfiguration initiative] when the project lead would reach out to some of us that were actually doing technical work...I was one of those and another woman who no longer works here, they would come to us for, like, okay, if we're implementing a process where we have to do requirements management, can you help us? Do you have any thoughts on how that process works'. (personal communication, IT Director, VTI, September 22, 2011)</p> <p>5: 'You need project managers and team lead who knows the new processes and who has the knowledge to kind of flows downhill to the rest of the team...if your team lead doesn't understand the PI then the whole team will not get it and it will fail'. (personal communication, Lead Developer, ENT, September 20, 2011)</p>	<p>Reconfiguration: Dynamic Capability (Teece, 2009);</p> <p>Dosi et al, 2000</p> <p>Organizational Learning (Argyris and Schon, 1978)</p>

Table 5.1 (continued)

Theme	Illustrative Supporting Evidence	Theory
Communicating -Formal/Informal meetings -Email -Provide feedback - Open-door policy	<p>1: 'Our CEO will physically attend the meetings. That's number one. Number two, if she didn't physically attend the meeting, she will request someone to be taking notes in any meeting. There's always meeting minutes. So she might ask for a copy of it, and then she might use the feedback from that. She'll send it back, and she copies everybody on it so we know what's going on. And she'll say, "Hey, Randy, as the quality manager I saw that we got a report on this or that. It looks great. Really like it. Do you think you can add this to it?" Or, "Do you think you can add that or develop something different that this report will feed in to". I mean, she keeps us engaged...And then once we give her the reports – a lot of managers, a lot of upper management, once you give them a report you never hear from them again. You don't know what happened with the report. You don't know if you need to improve on it. You just don't know. So you keep doing the same thing. She'll come back to you and she'll say, "You've done a great report. We used this report for this or that". So you understand what the report is doing and how it affects you'. (personal communication, Process Improvement Manager, DGT, October 10, 2011)</p>	<p>Reconfiguration: Dynamic Capability (Teece, 2009);</p> <p>Leadership (Cyert, 1990)</p> <p>Learning Organizations (Senge, 1990)</p> <p>Organizational Learning (Argyris and Schon, 1978)</p>

Table 5.1 (continued)

Theme	Illustrative Supporting Evidence	Theory
Communicating -Formal/Informal meetings -Email -Provide feedback - Open-door policy	<p>2: 'The CEO engages the staff during our meetings...She actually went to our customer analyst, sent them an email and said, "Can you take this portion and work on this for the next two weeks?"...This says to us [employees] "Hey, I'm involved as the president and CEO, and I think this is very important. And I want you to have the time to put in to make it work for this company...If you want successful and high-performing processes, you've got to have the leaders to display the positive behaviour on a constant and consistent basis'. (personal communication, Process Improvement Project Manager, DGT, October 7, 2011)</p> <p>3: 'We had a total of 16 on-job-training workshops for each new process, as well as 3 individuals receiving technical certification training in ITIL foundation service manager training'. (personal communication, CEO, STI, September 21, 2011; STI Implementation Plan document, March 16, 2010)</p> <p>4: 'As one project team has success we talk about how they achieved that and highlight the value of process reconfiguration involved at our quarterly management meetings. Every project [marketing, accounting, technical delivery] shared lessons learned on our company intranet for everyone to access. So when a particular project has an issue I encourage them to first check the lessons learned folder on the intranet, more than likely another project had the same issue'. (personal communication, CEO, ATS, September 19, 2011; Meeting Minutes, Quarterly Review, April 2011)</p>	<p>Reconfiguration: Dynamic Capability (Teece, 2009);</p> <p>Leadership (Cyert, 1990)</p> <p>Learning Organizations (Senge, 1990)</p> <p>Organizational Learning (Argyris and Schon, 1978)</p>

Table 5.1 (continued)

Theme	Illustrative Supporting Evidence	Theory
Communicating -Formal/Informal meetings -Email -Provide feedback - Open-door policy	5: 'It's difficult to share best practices when you don't have an automated tool to facilitate the process. The leaders talked a lot about getting a tool but that has not happened as yet...We always say if thing ever slow down...we'll sit down and really brainstorm what we want to accomplish in the future to better share information. We tried biweekly meetings, where we talked about it but people fell off and couldn't attend'. (personal communication, Lead Developer, ENT, September 20, 2011)	Reconfiguration: Dynamic Capability (Teece, 2009); Leadership (Cyert, 1990) Learning Organizations (Senge, 1990) Organizational Learning (Argyris and Schon, 1978)
Leadership Style - Motivate -Reward -Influence -Individual consideration -Intellectual stimulation	1: 'Everyone on the process reconfiguration team received a gift at a celebratory company dinner. As project lead, I got a \$1,000 gift certificate, which I purchased a diamond necklace. That was really nice!' (personal communication, Process Improvement Program Manager, ATS, September 19, 2011; Company newsletter, Fall 2010) 2: 'Our CEO will applaud us when we've done something, "Great job. Good work. I figured you did this. And she'll say, "Hey, Dora, as the quality manager I saw that we got a report on this or that. It looks great. Really like it. Do you think you can add this to it?" ...Anyone who sends in a suggestion for process improvement that gets implemented received a gift certificate to the local restaurant'. (personal communication, Process Improvement Project Manager, DGT, October 20, 2011)	Transformational Leadership (Bass and Avolio, 1993)

Table 5.1 (continued)

Theme	Illustrative Supporting Evidence	Theory
Leadership Style - Motivate -Reward -Influence -Individual consideration -Intellectual stimulation	3: 'The STI Diamond Award plus \$5,000 bonus is presented annually to the employee who makes significant contribution to Focus, Accountability, Commitment and Execution of process reconfiguration initiatives'. (Interview, CEO, STI, September 21, 2011; Company newsletter, Fall 2011). 4: 'DGT leader is perceived by her employees as frequently practicing transformational leadership style'. (<i>MLQ Leadership Rater Survey</i> , October 2011) 5: 'STI's leader is perceived by his employees as frequently practicing transformational leadership style'. (<i>MLQ Leadership Rater Survey</i> , October 2011) 6: 'ATS leader is perceived by his employees as frequently practicing transformational leadership style'. (<i>MLQ Leadership Rater Survey</i> , October 2011) 7: 'ENT leader is perceived by his employees as once in a while practicing transformation leadership style'. (<i>MLQ Leadership Rater Survey</i> , October 2011) 8: 'VTI leader is perceived by his employees as once in a while practicing transformation leadership style'. (<i>MLQ Leadership Rater Survey</i> , October 2011)	Transformational Leadership (Bass and Avolio, 1993)

5.3.1 Conceptualizing Dynamic Leadership Capabilities

The researcher argues that as social institutions, organizations are, by definition, composed of people involved in dynamic relationships. It is through these relationships between leaders and followers, superiors and subordinates, managers and workers that the fundamental purposes of organizations are accomplished. The combined interactions of these relationships undoubtedly influence the performance of the organizations. Thus, the effectiveness of these relationships depends in large part on the effectiveness of the behavioural input relative to the organizational goals supplied by the participants in these relationships (Sanders and Davey, 2011).

In Teece's (2009: 83) framework of dynamic capabilities, he stated that 'top management leadership skills are required to sustain dynamic capabilities. An important managerial function is achieving semi-continuous asset orchestration and

corporate renewal including the redesign of routines'. The concept of dynamic leadership capabilities (DLC) was introduced to help explain how dynamic capabilities influence performance through process reconfiguration as a means to sustain competitive advantage. We propose that dynamic leadership capabilities are rooted in four underlying factors: (1) sensing, (2) communicating, (3) coordinating, and (4) commitment. These factors, separately and in combination, influence the strategic and operational decisions of leaders, who, in turn, influence the actions of followers who then impact the outcome of process reconfiguration.

For purpose of this discussion, we understand the statement that an organization has a specific 'capability', implying that the organization (or its constituent parts) has the capacity to perform a particular activity repeatedly and in a reliable and at least minimally satisfactory manner, in contrast to *ad hoc*, which does not reflect practiced or patterned behaviour (Helfat and Winter; 2011; Dosi et al, 2000; Helfat and Peteraf, 1993). In the specific examples of the research cases, each firm had the capability to perform IT services. Capabilities are further viewed as a key dimension of a firm's heterogeneity (Nelson and Winter, 1982). The literature generally differentiated, although sometimes with a blurry line, between operational (or ordinary) capabilities and dynamic capabilities (Winter, 2003; Helfat et al, 2007). An operational capability enables a firm to perform an activity on an on-going basis using more or less the same techniques in the same scale to support the same existing products and services for the same customer (Helfat and Winter, 2011). Winter (2003) and Collis (1994) referred to these as 'zero order capabilities'.

In contrast, a dynamic capability is a capability that enables a firm to alter how it currently generates revenue (Teece et al, 1997; Teece 2007, 2009; Eisenhardt and Martin, 2000; Zollo and Winter, 2002; Zott, 2003; Winter 2003; Di Stefano, Peteraf and Vera, 2010; Winter and Helfat, 2011). Specifically, dynamic capabilities are viewed as tools that enable the reconfiguration of existing operational capabilities (Galunic and Eisenhardt, 2001). As applied to this research, operational capabilities are the routines identified as part of the process reconfiguration, and the tools that enable the process reconfiguration are the emerging leadership capabilities, which are now referred to as 'dynamic leadership capabilities' (DLC). The leadership dynamic capabilities that are proposed as tools for reconfiguration of existing operational capabilities during process reconfiguration are (1) sensing, (2) committing, (3) communicating, and (4) coordinating. These are graphically presented in the dynamic

leadership capabilities model presented in Figure 5.1, which demonstrates the logic by which dynamic leadership capabilities help leaders reconfigure the operational capabilities of their IT service delivery into new and better routines to match the environment and sustain process reconfiguration change. Each of these capabilities in the proposed dynamic leadership capabilities model is further theorized below.

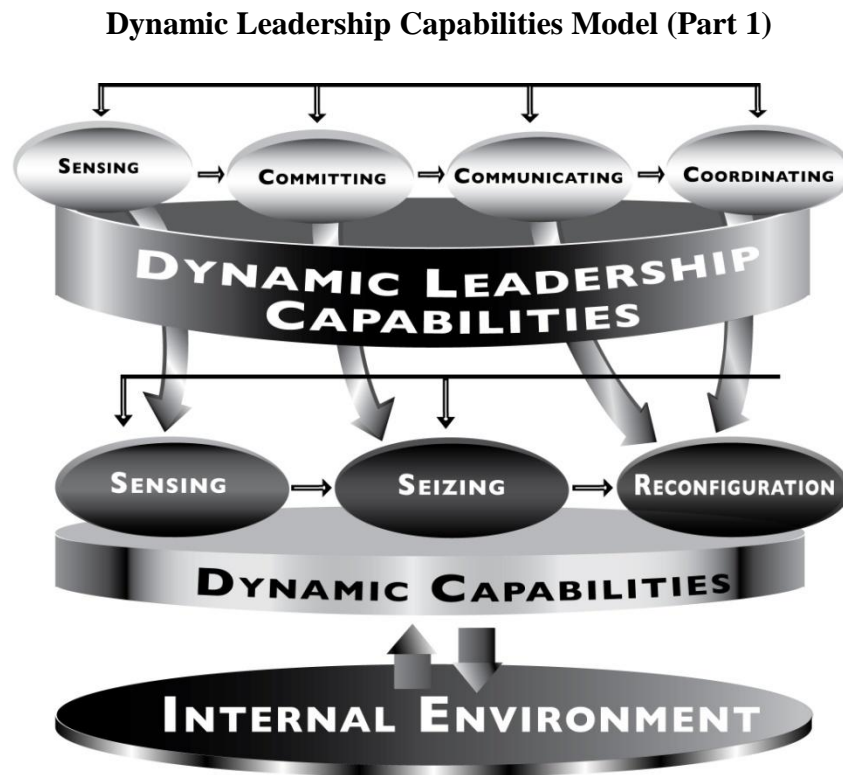


Figure 5.1: Dynamic Leadership Capabilities Model (Part I)

5.3.1.1 Sensing Capability

'Sensing' is defined as the ability to spot, interpret, and pursue opportunities in the environment (Teece, 2009). All cases represented in this study contained evidence of the leaders first sensing the environment to gather market intelligence on customer needs, competitor moves, and new technologies and processes. This capability is emphasised by Teece et al (1997: 521), who noted that 'the ability to calibrate the requirements for change and to effectuate the necessary adjustments would appear to depend on the ability to scan the environment, to evaluate markets and competitors and to quickly accomplish reconfiguration ahead of competition'.

Leadership sensing capability is proposed to enable the reconfiguration of the organization's existing operational capabilities by first generating marketing intelligence, which raises the leader's potential to identify new market opportunities

for reconfiguration (Zahra and George, 2002). This was illustrated in the case of VTI where the CEO noted the following:

We were thinking of getting into the federal space and...and was looking at how we could make ourselves a little bit more competitive...We saw that DoD was requiring CMMI. So we kind of just jumped on the bandwagon... At the time that we were investigating, very few, if any, small businesses had any kind of certification with CMMI...So those were the two driving factors that kind of got us in, market trends and just wanting to be better. (personal communication, CEO, VTI, August 18, 2011)

Second, disseminating market intelligence helps leaders respond to customer needs (Day, 1994), as illustrated in the case of DGT:

Looking at what the government (customer) was requiring on some of their contracts, and just discussion around with some of the industry experts, like Washington Tech and Gartner Group. We learned that ISO was the standard that was going to be required and used to differentiate the different service providers that support the government. So it was a combination of market research and just going through that whole process, working with our mentor and working with the Air Force sponsor to see what was important to them and what they're trying to achieve as an organization from the mission standpoint. (personal communication, CEO, DGT, September 9, 2011)

Third, responding to market intelligence promotes process reconfiguration and enables leaders to explore emergent opportunities for new products and services that meet customer needs (Jaworski and Kohli, 1993).

We had an in-house process that we were using and we were comfortable with; however, the government started to mandate CMMI as a standard.When we looked at CMMI, we looked at how we would go about doing it, and we said this is the right one for us, doing system development and software engineering that we could follow a consistent process. (personal communication, CEO, ENT, September 20, 2011)

H1: Leadership sensing capability in small firms is positively associated with the outcome of process reconfiguration.

5.3.1.2 Committing Capability

According to Teece (2009), once a new opportunity is sensed, it must be addressed through new products or processes, and the ability to quickly capture and commit resources demonstrates to others the importance of the new opportunity. The leaders must defeat the naysayers, transform internal views, and facilitate necessary investments by committing to the reconfiguration of existing operational capabilities.

'Leadership commitment capability' is defined as the act of pledging or engaging in a course of action. In relation to DLC and reconfiguration commitment are the leaders' abilities and actions to specifically demonstrate financial commitment of budget; the firm's resources, including human and technical; and facilities and other firm assets, including commitment of leadership time and involvement, to the reconfiguration.

A capability involves the integration of tangible assets, knowledge, and skills in order to perform a task (Helfat et al, 2007). Mobilization of resources is the most important requirement of leadership role (Hollander, 1978). It is the job of the leader to decide what investments are made, what assets are to be purchased, and how complementarities are to be achieved (Augier and Teece, 2009).

Leaders consider organizational tasks according to the impact their actions will have on participants' attention focus. Attention focus is central to the performance of the organizational function of leadership). Through continuous commitment of resource allocation to the reconfiguration of operational capabilities, the leader gets participants to allocate attention to the reconfiguration effort that the leader deems important. If leadership commitment is not demonstrated, participants' attention is not likely to be allocated to the reconfiguration effort. The leader's actions clearly represent the ideas that he/she considers to be important. Therefore, the leader's actions of actively participating in reconfiguration-related meetings, reviewing the status of reconfiguration efforts, and providing feedback send a clear message that the reconfiguration is important and that participants should allocate their attention to the reconfiguration. Role modelling is a case in which actions speak as loudly as words (Cyert, 1990).

The ATS and VTI cases illustrated the influence of the presence and absence of commitment as a dynamic leadership capability:

Financial support is absolutely necessary... So if three people have to be on overhead for a week, or five people have to be taken off for a billable program

for a week [to work on the process initiative], you say yes. It is sometimes a little bit difficult to do for the organization's revenue targets, but necessary if this is important...So financial support or the willingness to lose the revenue during the [process reconfiguration] period is probably the most important thing that I did. (personal communication, CEO, ATS, September 19, 2011)

Our QMO [Quality Management Office] is gone and we don't have people to do the work to keep up the process initiative...I try to do things on my end to keep the system up but my plate is pretty full so things are not done the way they should be done. (Interview, Director IT Solutions, VTI, September 30, 2011)

Leadership committing capability is proposed to facilitate reconfiguration by two primary means. First, it provides necessary organizational resources to support the reconfiguration, without which the reconfiguration of operational routines would not be achieved. Second, the leader's commitment of resources sends a message that the reconfiguration is important to the leader and, thus, is an organizational goal; therefore, participants should allocate their attention to the reconfiguration.

H2: Leadership commitment capability in small firms is positively associated with the outcome of process reconfiguration.

5.3.1.3 Communicating Capability

Reconfiguration involves changing and learning new routines (Helfat et al, 2007; Teece et al, 1997; Zollo and Winter, 2002). The process of engaging in organizational routines is the process of learning (Argote, 1999; Argyris, 1976; Argyris and Schon, 1978; Levitt and March, 1988; Senge, 1990). According to Feldman (2000), organizational routines involve people doing things, reflecting on what they are doing, and doing different things (or doing the same things differently) as a result of the reflection. Departure from routines lead to heightened anxiety within the organization, unless the culture is shaped to accept high levels of internal change (Teece, 2009). Therefore, the ultimate aim of leaders is twofold: (1) to change behaviour of people in the organization by influencing their focus (Cyert, 1990) and (2) to create a learning environment by motivating followers to perform at their best (Senge, 1990; Marquardt, 1996; Sadler, 2003).

The first action that influences attention focus is oral and/or written interaction of a clear and compelling vision of the future. Leaders must have a clear understanding of the message that they are communicating and must be aware that the

goal of communication is to influence the attention allocation of the organization's members. Additionally, the reward system that the leader establishes reinforces the attention focus of members. A leader can use a reward system to reinforce the established priority for attention allocation (Cyert, 1990).

'Communicating capability' is defined as the activity of conveying information and imparting or interchanging thoughts, opinions, or knowledge by speech, writing or sign. Communicating information and knowledge to shape and share a vision, motivating others, and facilitating learning are key parts of dynamic leadership capabilities. Sarin and McDermott (2003) pointed out that to be effective, communication by the leader must take not only the form of top-down communication (e.g., vision setting) but also lateral communication in order to involve organizational participants in any organizational learning effort. Such communication ensures flexibility and democracy in the learning process and reduces possible alienation of participants (Swift and Hwang, 2008). Hedlund (1994) proposed an 'N form' of communication as the most effective communication model, instead of the 'M form' often visualized. Specifically, the M form depends on a hierarchical flow of knowledge that leads to fragmented knowledge and silos that slow down reconfiguration. In contrast, the N form involves the combination of knowledge instead of its division.

The influence of leadership communication was illustrated in the DGT and ATS cases:

Our CEO will physically attend the meetings. That's number one. Number two, if she didn't physically attend the meeting, she will request someone to be taking notes in any meeting. There's always meeting minutes. So she might ask for a copy of it, and then she might use the feedback from that. She'll send it back, and she copies everybody on it so we know what's going on. And she'll say, 'Hey, Randy, as the quality manager I saw that we got a report on this or that. It looks great. Really like it. Do you think you can add this to it?' Or 'Do you think you can add that or develop something different that this report will feed in to'. I mean, she keeps us engaged.... (personal communication, Process Improvement Manager, DGT, October 20, 2011)

As one project team has success we talk about how they achieved that and highlight the value of process reconfiguration involved at our quarterly management meetings. Every project [marketing, accounting, technical

delivery] shared lessons learned on our company intranet for everyone to access. So when a particular project has an issue I encourage them to first check the lessons learned folder on the intranet, more than likely another project had the same issue. (personal communication, CEO, ATS, September 19, 2011; Meeting Minutes, Quarterly Review, April 2011)

Teece et al (1998) suggested that reconfiguration involves changing and learning new routines. Feldman (2000) further argued that the process of engaging in organizational routines is the process of learning. Senge (1990) took the position that leaders are responsible for enabling a learning organization by motivating individual and team learning. Cyert (1990) pointed to communication as the most important mechanism of leadership to shape vision and influence behaviour. Therefore, leadership communicating capability is proposed as an enabler of reconfiguration by helping to promote learning.

H3: Leadership communicating capability in small firms is positively associated with the outcome of process reconfiguration.

5.3.1.4 Coordinating Capability

Because the new configuration of operational capabilities requires effective coordination of tasks and resources, integrating new resources and assets, and synchronizing activities (Pavlou and El Sawy, 2011; Sirmon et al, 2011; Helfat and Peteraf, 2003), coordinating capability enables reconfiguration by administering tasks, activities and resources to deploy the reconfigured operational capabilities. 'Leadership coordinating capabilities' are defined as the abilities to orchestrate, deploy, and integrate tasks, resources, and activities. Coordination enables actors to make aligned plans and decisions and undertake consistent actions. Communication facilitates coordination, since sharing of information is required for consistent actions (Taylor and Helfat, 2010).

The proposed leadership dynamic capability of coordinating draws upon the dynamic capabilities literature by assigning tasks (Teece, 2009; Brown and Eisenhardt, 1989), identifying complementarities and synergies among tasks and resources (Galunic and Eisenhardt, 2000) and orchestrating collective activities (Sirmon et al, 2012). These elements of coordination are demonstrated in the STI and DGT cases:

We were definitely having to shift things around, expend additional hours to commit to getting the effort [process reconfiguration] completed...Our CEO is

a task manager who knows very well how to task the team. He sets the expectation, and there's only left to do the work and get the outcome that he is expecting...it took a certain energy, which the CEO has to help us to succeed in the process initiative. (personal communication, Director Human Resources, STI, September 19, 2011)

They cross train very well here...like for order fulfillment that I do, for example, I'm not the only person who knows how to process purchase orders. So if I'm swamped ...there's at least two or three other people who know the process...somebody else can pick this up so that things don't fall behind. (personal communication, Project Analyst, DGT, October 6, 2011)

Teece et al (1997: 519) argued that 'dynamic capability is embedded in distinct ways of coordinating'. Eisenhardt and Brown (1999) argued that coordination is an essential element of successful reconfiguration. Also, Quinn and Dutton (2005: 36) noted that 'coordination is the process people use to create, adapt and re-create organizations'. Thus, leadership coordinating capabilities help implement and deploy the reconfigured operational capabilities.

H4: Leadership coordinating capability in small firms is positively associated with the outcome of process reconfiguration.

5.3.2 The Effects of Leadership Styles on Process Reconfiguration and Organizational Learning

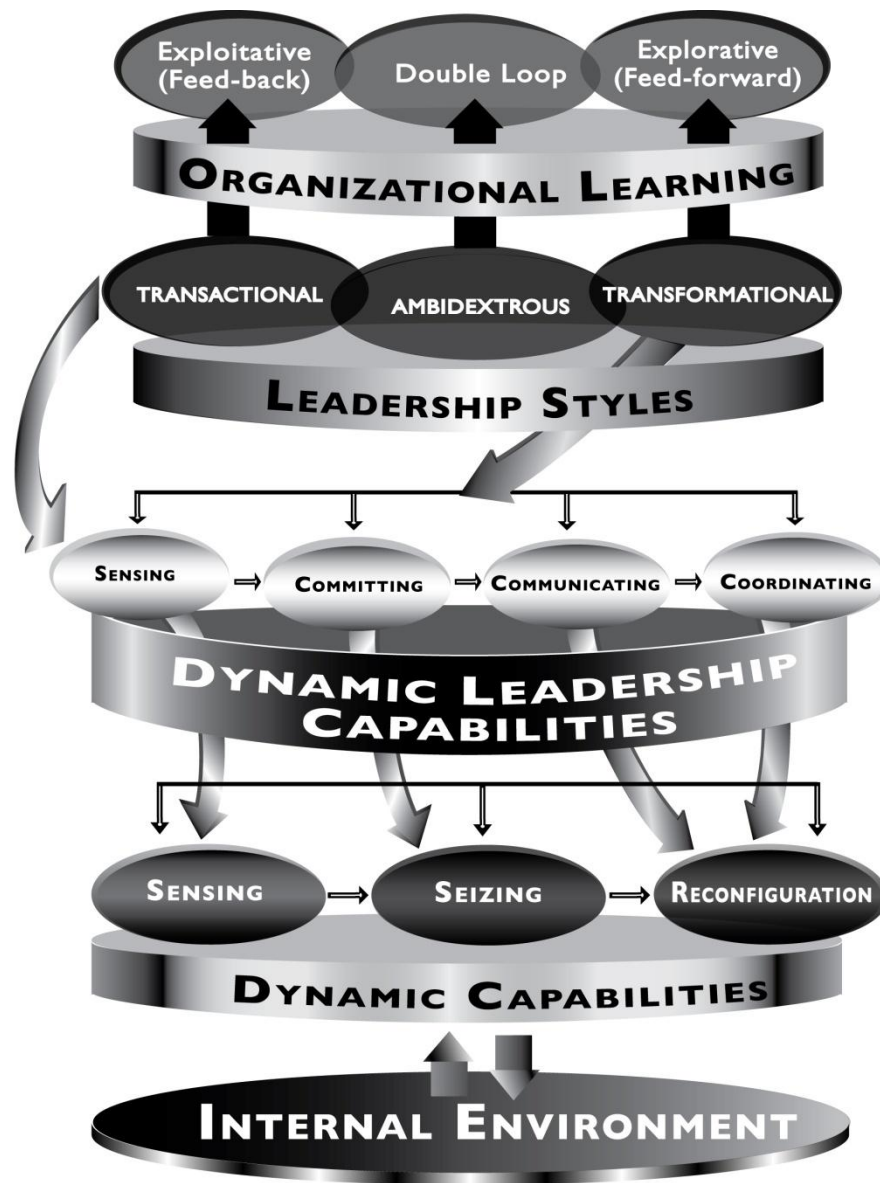


Figure 5.2: Dynamic Leadership Capabilities Model (Part II)

Drawing from Teece's (2007, 2009) dynamic capabilities framework in which he argued that leadership and learning are both fundamental to effective organizational functioning and building on the previous discussion demonstrating the importance of leadership in enabling learning during reconfiguration, this section investigates the effects of leadership styles on organizational learning. The competitive pressures of the present environment necessitate a focus on risk-taking and creativity; therefore, traditional management styles that insist on compliance and

enforcement of rules are considered inappropriate. Developing new competencies and capabilities that place learning at the center of the organization has gained importance (Senge, 1990).

'Organizational learning' is defined here as the process of change in thought and action, both individual and shared, embedded in and affected by institutions. Over time, learning becomes embedded in routines, processes, and structures. Past learning begins to guide the members' current learning and becomes part of the formal procedures (Crossan et al, 1999). According to Edmondson (1999) and Argote (1999), 'team learning' refers to the process by which a team of individuals acts as a whole in terms of reflecting on feedback and making changes for improvement. During this time, shared understanding among team members is critical (Simons, 1991) as they focus on interpretation and integration of knowledge to develop coherent and corrective actions (Crossan et al, 1999). Such coordination within teams enables effective team processes and achievements beyond those of individual team members (Day et al, 2004). Vera and Crossan (2004) and Sun and Anderson (2011) identified two processes that constitute team learning: (1) exploitive type or feedback learning and (2) explorative type or feed-forward learning. Feedback learning pertains to how institutionalized learning affects the individual, while feed-forward learning refers to the process by which a team member's intuition and interpretation become institutionalized parts of collective team learning.

Several researchers have found that when top leadership exercises a transformational leadership style, radical learning is encouraged (Berson et al, 2006; Jansen et al, 2009; Vera and Crossan, 2004), which facilitates exploratory learning. A transactional style exercised by top leadership facilitates learning that reinforces existing practices and exploitative learning (Jansen et al, 2009; Vera and Crossan, 2004). This rigid dichotomy is unrealistic. Leaders increasingly face many exigencies, such that no single style or subset of leadership styles can serve all purposes. Despite the clear distinction between transformational and transactional leadership styles, Bass (1985, 1999) suggested that transformational leadership is actually an extension of transactional leadership; therefore, a leader can simultaneously be both or neither. The underlying premise is that all leaders reward performance, but some go beyond basic leader-subordinate exchanges. The full range of leadership presumes that all leaders demonstrate elements of each type of leadership in complementary fashion, even if they exhibit preferences in one direction

or the other (Lowe et al, 1996). Avolio et al (1999) agreed, and Vera and Crossan (2004) revisited the idea to propose the term 'ambidextrous leadership'. Similarly, it has been proposed that an ambidextrous leadership style facilitates what Argyris (1976) and Argyris and Schon (1978) identified as 'double-loop learning'. Nonaka and Takeuchi (1995) claimed that changes in organization do not simply consist of responses to the external environment but also consist of internally generated new knowledge.

Analysis of the MLQ Leadership Style Survey results indicated that employees of organizations where process reconfiguration was sustained indicated that effective learning was adopted in the organizations that frequently exercised a transformational leadership style, with evidence of some transactional style also being exercised (see Figure 5.2). Also demonstrated was evidence of double-loop learning in which both feedback and feed-forward learning took place, as in the case of DGT:

Our CEO will applaud us when we've done something, 'Great job. Good work. I figured you did this. And she'll say, 'Hey, Dora, as the quality manager I saw that we got a report on this or that. It looks great. Really like it. Do you think you can add this to it?' ...Anyone who sends in a suggestion for process improvement that gets implemented received a gift certificate to the local restaurant. (personal communication, Process Innovation Project Manager, DGT, October 20, 2011)

DGT leader is perceived by her employees as frequently practicing transformational leadership style with some transactional style. (*MLQ Leadership Rater Survey*, October 2011)

In the case of VTI where the employees perceived the leader as practicing a more transactional leadership style, it appeared as if more feedback learning was occurring:

Well, there a number of ways to sell it [process reconfiguration] to my employees. Number one, I don't want to sound mean, but I'm paying them to do this... this [process reconfiguration] is part of their job classification, part of your salary, part of why they were hired. (personal communication, CEO, VTI, August 18, 2011)

VTI leader is perceived by his employees as once in a while practicing transformation leadership style while frequently practicing transactional leadership style. (*MLQ Leadership Rater Survey*, October 2011)

It is, therefore, proposed that a transformational leadership style promotes explorative learning, and a transactional leadership style promotes exploitive learning, while an ambidextrous leadership style promotes double-loop learning, which is both explorative and exploitive (Figure 5.2).

H5a: When leaders of small firms practise a transformational leadership style process reconfiguration was sustained.

H5b: When leaders of small firms practise a transactional leadership style process reconfiguration was not sustained.

H5c: When leaders of small firms practise a transformational leadership style, explorative team learning occurs.

H5d: When leaders in small firms practise a transactional leadership style, exploitative team learning occurs.

H5e: When leaders in small firms practise an ambidextrous leadership style explorative and exploitative team learning occurs simultaneously.

5.3.3 The Effects of Dynamic Leadership Capabilities on Entrepreneurial Fitness

Teece's (2009) dynamic capabilities framework argued that the entrepreneur/manager's function in the dynamic capabilities framework introduces novelty and seeks new combinations. The entrepreneur endeavours to promote and shape learning. Teece went on to state that the leader senses new opportunities and leads the organization forward to seize them. These roles are not recognized in economic theory but are the essence of dynamic capabilities, or what Teece called 'entrepreneurial fitness'. To achieve this entrepreneurial fitness, Teece (2009: 59) further argued that 'management must be entrepreneurial, sensing if not creating new opportunities before others do, and executing swiftly and expertly and collaboratively where the situation allows and requires it'. While the concept of 'entrepreneurial fitness' was introduced by Teece, he was evasive on how it would occur within the dynamic capabilities framework.

Effective leaders are those who are able to assess a diverse set of dynamic environment forces to identify performance demands on the organization in terms of specific outputs the organization has produced to optimally align with its environment (Northouse, 2009; Yukl, 2010). Likewise, the environment, as read by leaders, serves as a contingency variable to guide creation of the composite of behaviours needed to drive organizational change. In essence, the challenge of leadership is to envision how to change the organization to achieve the set of organizational results that best fits

environmental demands while maintaining the organization as a social system (Yukl, 2010). Leaders then have to influence followers to enact behaviours that produce follower performance outputs that collectively represent the desired composite of organizational outputs (Sanders and Davey, 2011).

The Dynamic Leadership Capabilities Model is proposed as an extension of Teece's (2009) 'entrepreneurial fitness' concept within the dynamic capabilities framework (See Figure 5.3). It is proposed that dynamic leadership capabilities, identified within this research as (1) sensing, (2) committing, (3) communicating, and (4) coordinating, facilitate reconfiguration and creation of operational capabilities by enabling organizational learning. When leaders exercise an ambidextrous leadership style, double-loop learning of both explorative and exploitive learning is facilitated, enabling the leader not only to react but also to influence internal and external environmental change.

DYNAMIC LEADERSHIP CAPABILITIES MODEL

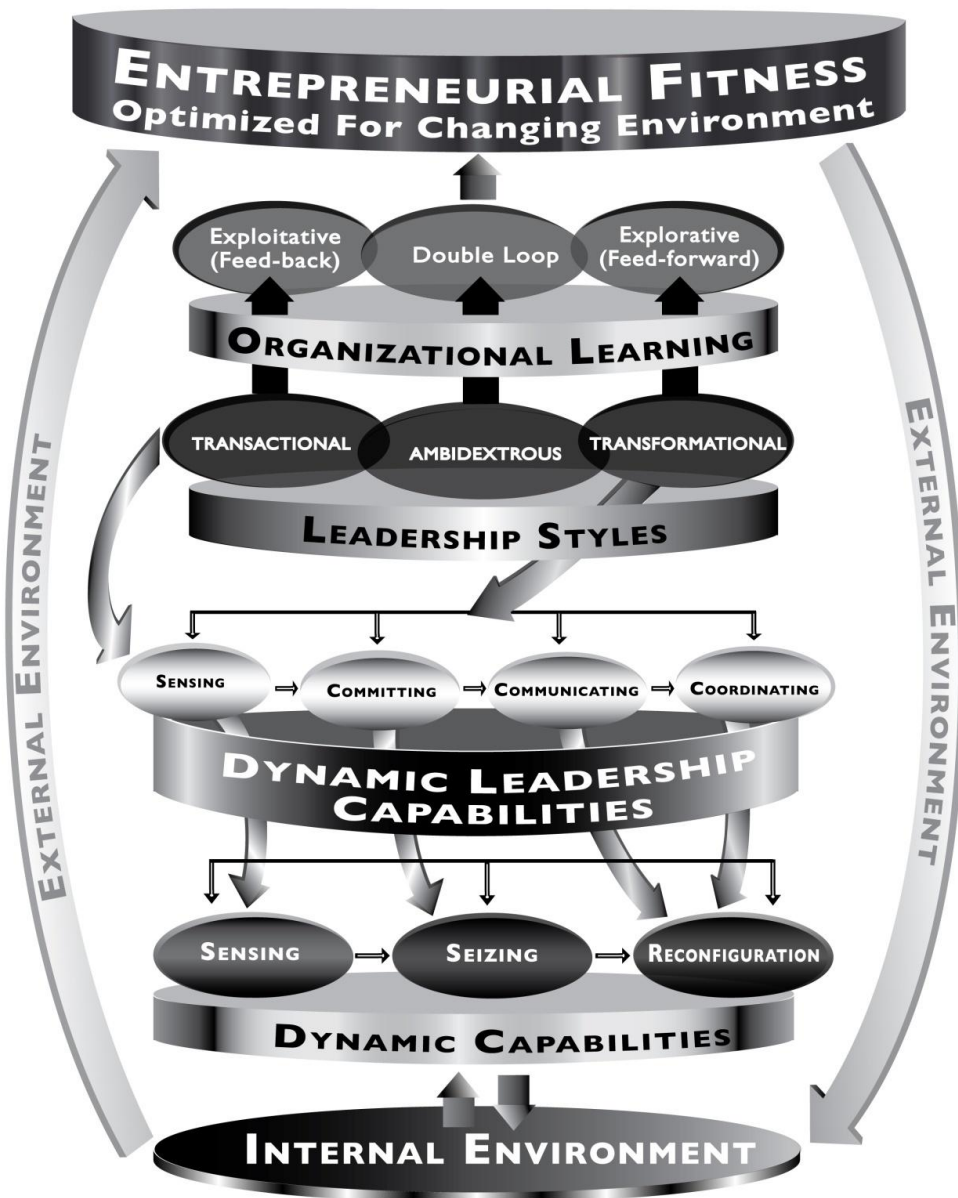


Figure 5.3: Dynamic Leadership Capabilities Model (Part III)

5.4 Summary

This chapter addressed the major objective of this study, which was to build a theory explaining the link between leadership behaviour and strategic change in high performing small firms based on the data presented in the previous chapter. To gain a deeper understanding of the new themes that emerged from the data, additional relevant literature was reviewed. The concepts gained were used to organize, analyse, and build theory from the data. The findings of the research suggest that leadership plays an important role in process innovation as a reconfiguration activity and, thus,

the creation of operational capabilities. This study proposes that dynamic leadership capabilities enable organizational learning, which underpins routine changes. These routine changes constitute the major element of reconfiguration. Furthermore, various leadership styles have been found to directly influence learning types. Specifically, the transactional leadership style appears to influence the exploitative or feedback learning type, while the transformational leadership style appears to influence the explorative or feed-forward type of learning. However, the research findings indicate that leaders who practise a combination of transformational and transactional leadership, known as ambidextrous leadership, influence a combination of both feedback and feed-forward learning styles called double-loop learning. Extending Teece's (2009) concept of entrepreneurial fitness within the dynamic capabilities framework, it is proposed that the dynamic leadership model contained in Figure 5.3 plays a significant role in achieving entrepreneurial fitness by enabling the leader not only to react but also to influence internal and external environmental change.

Chapter 6 – Contributions, Conclusions and Recommendations

6.1 Introduction

The primary purpose of this research study is one of inductive theory building, therefore, the final chapter of the thesis starts off by discussing the study's contributions to theory and practice, followed by the answer to the basic research question: 'How does leadership behaviour influence process reconfiguration in high-performing small firms?' This chapter also addresses the three research objectives: (1) explore the specific leadership behaviour that contributes to process reconfiguration, (2) address a gap in the dynamics capabilities literature that implies leadership is important but is vague on the specifics and actual practice, and (3) build a theory that explains the link between leadership behaviour and strategic organizational change. This is followed by a discussion of the study's limitations. The chapter closes with recommendations for future research that may serve as components of a more comprehensive theory of leadership behaviour and strategic change.

6.2 Contributions to Theory

Teece's (2009) dynamic capabilities framework argues that the entrepreneur/manager function in the dynamic capabilities framework introduces novelty and seeks new combinations and endeavours to promote and shape learning. Teece went on to state that the leadership function senses new opportunities and leads the organization forward to seize them. These roles are not recognized by economic theory but are the essence of dynamic capabilities, or what Teece (2009) called 'entrepreneurial fitness'. To achieve entrepreneurial fitness, Teece (2009: 59) further argued that 'management must be entrepreneurial, sensing if not creating new opportunities before others do, and executing swiftly and expertly and collaboratively where the situation allows and requires it'.

Teece (2009) was evasive regarding how entrepreneurial fitness would occur within the dynamic capabilities framework. Furthermore, researchers in dynamic capabilities literature seem to have ignored the concept. While the concept of dynamic managerial capabilities was offered by Helfat and colleagues (Adner and Helfat, 2003; Helfat et al, 2007; Helfat and Winter, 2011) as a possible source of heterogeneity in the dynamics capability framework, it appears to focus on explaining the source of technical and evolutionary fitness.

6.2.1 Dynamic Leadership Capability: Linking Leadership Style and Entrepreneurial Fitness

The Dynamic Leadership Capabilities Model is proposed as an extension of Teece's (2009) entrepreneurial fitness concept within the dynamic capabilities framework (see Figure 6.1). It is proposed that dynamic leadership capabilities, identified within this research as (1) sensing, (2) committing, (3) communicating, and (4) coordinating, facilitate reconfiguration and creation of operational capabilities by enabling organizational learning. When leaders exercise a combination of mainly transformational and some transactional leadership styles (i.e., an ambidextrous leadership style), double-loop learning of both explorative and exploitive types is facilitated, enabling the leader not only to react but also to influence internal and external environmental change.

Both the leadership literature, particularly the transformational leadership stream (Berson et al, 2006; Bucic et al, 2010; Jansen et al, 2009; Vera and Crossan, 2004; Sun and Anderson, 2011; Sanders and Davey, 2011), and the dynamic capabilities literature (Augier and Teece, 2009; Teece et al, 1997; Eisenhardt and Martin, 2000; Helfat and Winters, 2011; Sirmon et al, 2010; Zallo and Winter, 2001) signal that leadership as part of the broader construct of management is a major enabler, if not a source, of competitive advantage. The leadership and dynamic capabilities literature represent different sides of the same coin yet are bizarrely uninterested in each other. This study's findings further emphasize the common themes between the two.

On the dynamic capabilities side of the coin, Helfat and colleagues (Adner and Helfat, 2003; Helfat et al, 2007; Helfat and Winter, 2011) offer dynamic managerial capabilities as a possible source of heterogeneity in the dynamics capability framework. Dynamic managerial capabilities, however, appear to major on explaining the dynamics of technical and evolutionary fitness while neglecting Teece's (2009) argument of entrepreneurial fitness as an equally important dimension of the dynamic capabilities framework. The discovery of this research supporting the notion of dynamic leadership capabilities illuminates leadership as a missing piece in the dynamic capabilities puzzle. Deeper understanding of the proposed theory of leadership styles and practices in influencing strategic change helps to sharpen the focus on the elusive concept of entrepreneurial fitness. As indicated before, dynamic managerial capabilities seem to address technical and evolutionary fitness, which

seem to operate at the firm level. On the other hand, the proposed dynamic leadership capabilities, which seem to address entrepreneurial fitness, appear to operate at the process level. These inferences leave fertile ground for further testing and exploration.

At the theoretical level, this study's findings extend the dynamic capabilities framework by proposing that leadership styles and practices are key factors in explaining why some firms survive and others fail. Reflective of Teece's (2007, 2009) dynamic capabilities framework, the data from this research suggest that in the absence of dynamic leadership capabilities, change is dissipative. In the presence of dynamic leadership capabilities, change coheres and builds, sustaining process reconfiguration. The data show multiple recurring leadership behaviours of dynamic leadership capabilities within specific long-term process reconfiguration. The data also suggest that entrepreneurial fitness, which has been ignored by the dynamic capabilities scholars and was introduced but unexplained by Teece, heavily depends on the transformational leadership style and patterned learning enabled by the dynamic leadership capabilities of sensing, committing, communicating, and coordinating on a continuous basis. The study results further support that transformational leadership styles influence explorative organizational learning, while transactional leadership styles influence exploitative organizational learning and the ambidextrous leadership style influences double-loop organizational learning. The total effect suggests that leadership styles and practices determine entrepreneurial fitness. These findings are highly suggestive that the role of leadership is perhaps the missing piece of the puzzle regarding why some firms succeed and others fail.

DYNAMIC LEADERSHIP CAPABILITIES MODEL

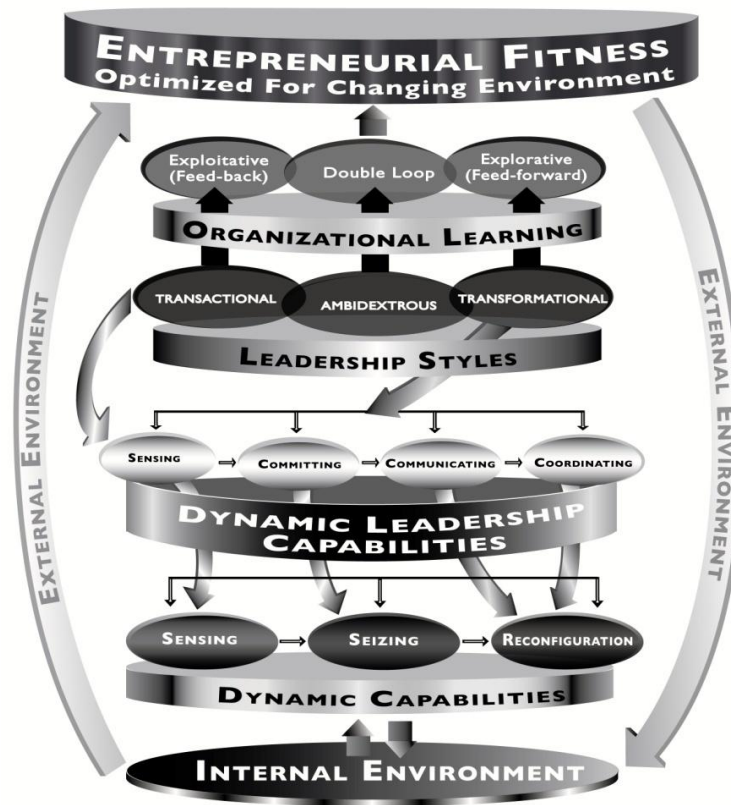


Figure 6.1: Dynamic Leadership Capabilities Model

6.3 Contribution to Practice

At a practitioner level, there is considerable interest in the question of why firms differ in their ability to effectively implement process reconfiguration methodologies such as ISO 9000 and CMMI. Research in this area has been primarily content-based (Linderman et al, 2004; Powell, 1995; Flynn and Flynn, 2004), and differing results create a puzzle because firms adopting, for example, ISO 9000 are homogeneous in this respect. Researchers are generally obligated to study firms from the outside, where issues of process are not visible. This research addresses this lack of visibility into the process issues and micro foundations of practices. While the study results should be of primary interest to researchers in the field of strategic change, it is expected that they will also be of value to entrepreneurs, managers, and practitioners.

Better understanding of the relationship between leadership behaviour and process reconfiguration can help practitioners and consultations in the area of process reconfiguration implementation. Current practice in the field of process change gives

little or no consideration to the dimension of leadership style but, rather, focuses solely on the technical aspect of process reconfiguration. The dynamic leadership capabilities (sensing, committing, communicating, and coordinating) highlighted by this study should be key indicators as part of a process reconfiguration implementation schedule.

This new information highlighted by leadership behaviours and practices can be taught and systems set up to encourage more effective and efficient process reconfiguration initiatives. For example, when first starting a new process reconfiguration initiative, a quick survey to determine leadership style can be administered to leaders of the organization or teams to give the lead consultants an indication of expected behaviour pattern of the leader(s) and to allow for adjustments or advisement regarding possible focus areas during implementation of the process reconfiguration system. A risk mitigation plan identifying the risk involved with the identified leadership style could be developed with the leader and possible specific training plans actions could be put in place to ensure a more positive outcome. If the leader tends to be more of a transactional leader, then advisement and care could be given when team selection is being made to ensure cross sectional teams are well represented.

A mini training session on the overview of leadership styles and the development of measurable objectives for each dynamic leadership capability (sensing, committing, communicating and coordinating) could be offered to the leader and team members in the first phase of a new process reconfiguration implementation. Assessments and feedback for continual improvement would be mapped to the implementation lifecycle process to increase the likelihood of sustaining the process change.

The results of this study can help give leaders of organizations more actionable guidelines to make effective decisions in highly competitive environments. In addition, leadership training programs, such as those provided by universities, and professional certification programs will benefit from this study regarding behaviour that could be taught to leaders in order to effectively manage change and sustain high performance, thereby increasing the small firm's chance of sustained competitive advantage and reducing the failure rate of small firms.

Finally, public policy will be better informed by this study on matters that shape public policies that affect small business growth and sustainability. Historically,

public policies on small firms tend to predominately focus on technology transfer and financial barriers. Discovery from this research highly suggests that public policies that address leadership training for entrepreneurs are equally important as technology transfer capabilities for small firm success.

6.4 Conclusion

The primary purpose of this study was one of inductive theory-building to explore the link between leadership behaviour and strategic change in sustained high-performing small firms. This research study was conducted around one research question: How does leadership behaviour influence process reconfiguration in high-performing small firms? The study had three objectives: (1) to explore the specific leadership behaviour that contributes to process reconfiguration, (2) to address a gap in the dynamic capabilities literature that says that leadership and learning are important but is vague on specifics and actual practices and (3) to build a theory explaining the link between leadership behaviour and strategic organizational change.

6.4.1 Research Question

Based on the research findings and the model presented in Figure 6.1, the research question was answered in the following ways:

1. Process reconfiguration in high-performing small firms is heavily dependent on the leadership behaviours of sensing, committing, communicating, and coordinating, referred to as dynamic leadership capabilities.
2. Sensing and committing align with Teece's (2007, 2009) sensing and seizing elements of the dynamic capabilities framework, while reconfiguration has two related practices: communication and coordination.
3. Transactional leaders perform the dynamic leadership behaviours of sensing, committing, communicating, and coordinating in a sequential manner to achieve a specific objective: certification. These practices influence exploitative organizational learning. The result is process reconfiguration in which change occurs for a period of time; however, results of reconfiguration dissipate, and process return to old routines.
4. Transformational leaders perform the dynamic leadership behaviours of sensing, committing, communicating, and coordinating in a co-constitutional manner on a continuous basis. These practices influence

explorative organizational learning. The results of process reconfiguration where change occurs for a period of time are sustained through constantly changing processes to meet the changing environments when necessary.

6.4.2 Specific Leadership Behavior that Contributes to Process Reconfiguration

Research findings highlighted four specific leadership behaviours that contribute to process reconfiguration: (1) sensing; (2) committing; (3) communicating; and (4) coordinating (see Figure 6.1). Sensing is similar to Teece's (1997, 2009) sensing element in his dynamic capabilities framework. The sensing capability is proposed to enable the reconfiguration of an organization's existing operational capabilities. First, the sensing capability generates marketing intelligence, which raises the leader's potential to identify new market opportunities for reconfiguration (Zahra and George, 2002). Second, disseminating market intelligence helps leaders respond to customers' needs (Day, 1994). Third, responding to market intelligence promotes process reconfiguration and enables leaders to explore emergent opportunities for new products and services that meet customer needs (Jaworski and Kohli, 1993).

Committing, the second leadership behaviour, seems to align with Teece's (1997, 2009) seizing element of the dynamic capabilities framework. Committing refers to the leader's ability and actions that specifically demonstrate financial commitment of budget; resources, including human and technical; and facilities and other firm assets, including commitment of leadership's time to and involvement in the reconfiguration. Leadership's committing capability is proposed to facilitate reconfiguration by two primary means. First, it provides necessary organizational resources to support the reconfiguration of operational routines, without which the reconfiguration could not be achieved (Helfat et al, 2007; Augier and Teece, 2009). Secondly, the leader's commitment of resources sends a message that the reconfiguration is important and, thus, is an organizational goal and that participants should allocate their attention to it (Cyert, 1990).

The third and fourth leadership behaviours that contribute to process reconfiguration are communicating and coordinating. 'Leadership communicating' is defined as the activity of conveying information and imparting of thoughts, opinions, or knowledge by speech, writing, or sign. This leadership capability to communicate information and knowledge by shaping and sharing a vision also motivates and facilitates learning. 'Leadership coordinating' is defined as the ability to orchestrate,

deploy, and integrate tasks, resources, and activities. Coordination enables actors to make aligned plans and decisions and undertake consistent actions. Leadership coordinating practice draws upon the dynamic capabilities literature by assigning tasks (Teece, 2009; Eisenhardt and Brown, 1999), identifying complementarities and synergies among tasks and resources (Galunic and Eisenhardt, 2000), and orchestrating collective activities (Sirmon et al, 2012). Both communicating and coordinating leadership behaviour appear to heavily influence Teece's (2007, 2009) reconfiguration element of the dynamic capabilities framework.

An interesting research finding showed that both transactional and transformational leaders performed the patterned behaviour of sensing, committing, communicating, and coordinating. Process reconfiguration was sustained in only those organizations where a transformational leadership style was implemented frequently. Additionally, these leaders appeared to perform these practices continuously in a co-constitutional manner. However, transactional leaders performed these practices in a sequential manner, focusing on one practice at a time. Table 6.1 summarizes specific leadership behaviour with examples of practices that contributed to sustained process reconfiguration.

Table 6.1

Leadership Behavior that Contributes to Sustain Process Reconfiguration

Behavior	Practices	Illustrative Supporting Evidence
Sensing Information gathering, assessing stakeholders' needs, strategic outlook, disseminating information	<p>Attending industry conferences</p> <p>Reading trade journals</p> <p>Allowing others in the organization to attend industry conferences</p> <p>Discussing new customer intelligence information with others in the organization</p> <p>Establishing company resource library</p> <p>Allowing time for relevant reading and discussion, such as agenda items at monthly management meetings</p>	'Looking at what the government [was] requiring on some of their contracts, and just discussion around with some of the industry experts, like Washington Tech and Gartner Group. We learned that ISO was the standard that was going to be required and used to differentiate the different service providers and that support the government. So it was a combination of market research and just going through that whole process, working with our mentor and working with the Air Force sponsor to see what was important to them and what they're trying to achieve as an organization from the mission standpoint.' (personal communication, CEO, DGT, September 8, 2011)
Committing Financial budget, Time, Human Resources, IT infrastructure	<p>Developing and approving appropriate budgets</p> <p>Investing in an automated tool for information sharing and knowledge management (e.g., SharePoint)</p>	'Financial support is absolutely necessary...So if three people have to be on overhead for a week, or five people have to be taken off for a billable program for a week [to work on the process initiative], you say yes. It is sometimes a little bit difficult to do for the organization's revenue targets, but necessary if this is important...So financial support or the willingness to lose the revenue during the (process reconfiguration) period is probably the most important thing that I did'. (personal communication, CEO, ATS, September 19, 2011)

Table 6.1 (continued)

Behavior	Practices	Illustrative Supporting Evidence
Communicating Formal/informal meetings, email, provide feedback, open-door policy	Coordinating Sharing/transfer of knowledge, cross functional teams, formal training, informal on the job training	Design organizational structures to facilitate cross functional teams Involve practitioners at all levels in designing and developing change routines
		'As one project team has success we talk about how they achieved that and highlight the value of process reconfiguration involved at our quarterly management meetings. Every project [marketing, accounting, technical delivery] shared lessons learned on our company intranet for everyone to access. So when a particular project has an issue I encourage them to first check the lessons learned folder on the intranet, more than likely another project had the same issue'. (personal communication, CEO, ATS, September 19, 2011; Meeting Minutes, Quarterly Review, April 2011)

6.4.3 Theory Linking Leadership and Change

According to the dynamic capability literature (Teece 2007, 2009; Helfat, 2007; Di Stefano et al, 2011), sustaining high performance is predicated on the organization's ability to continuously change. Taking the lead from Helfat (2007) and others who pointed to dynamic management capability as the source of dynamic capability, this research took a finer look at leadership as a subset of management and found that leadership is a major contributing factor in influencing process reconfiguration and, thus, organizational change. As developed and outlined in the previous chapter, dynamic leadership capabilities (i.e., sensing, committing, communicating, and coordinating) were also found to heavily influence process reconfiguration and, thus, organizational change. Process reconfiguration or organizational change occurred as a result of leadership actions that influenced organizational learning.

As Figure 6.1 demonstrates, the research findings support prior research showing that a transactional leadership style encourages exploitative learning (Jansen et al, 2009; Vera and Crossan, 2004) and a transformational leadership style encourages explorative learning (Berson et al, 2006; Jansen et al, 2009; Vera and Crossan, 2004). This research also highlighted that the combined transformational and transactional styles known as the ambidextrous leadership style (Lowe et al, 1996; Jung and Avolio, 1999) encouraged both exploitative and explorative learning known as double-loop learning (Argyris, 1976; Argyris and Schon, 1978).

This research has discovered that leadership behaviours and styles are significant influencing factors in the dynamic capability framework. The transformational leadership style performs the leadership behaviours of sensing, committing, communicating, and coordinating in a continuous manner that encourages explorative organizational learning and results in organizational change. The transactional leadership style, however, performs the same leadership behaviours in a sequential manner that encourages exploitative organizational learning. While these findings reflect Teece's (2007, 2009) framework of sensing, seizing, and reconfiguration, they deepen understanding of the dynamics of the order of the elements and point to two new micro processes that influence reconfiguration: communication and coordination.

6.5 Limitation

While this study seeks to add to understanding of the role of leadership behaviour and strategic change in small, high-performing firms, the study was limited by its exploration of only one layer of leadership at small firms: top management. The relationships among other layers of leadership in the organization need to be explored and investigated as well. It should also be noted that while this study only investigated small technology firms in the federal sector, future studies could investigate the relationship between leadership behaviour and firm performance at firms of differing sizes and in different sectors and industries. The limitations of the inductive theory-building research methodology primarily involve issues of internal validity, and the steps taken in this research were noted and discussed in Chapter 3.

6.6 Recommendations for Future Research

The discussions of the research findings and the limitations that apply to them suggest a number of avenues for future research. Five specific suggestions are offered

here in the hopes of extending the usefulness and exploratory significance of these findings and the proposed dynamic leadership capabilities theory.

1. Testing of the propositions from the outcome of this study are valid areas for future studies. Further examinations of each of the following propositions should extend the body of knowledge in the strategy and leadership literature.
 - Leadership sensing capabilities in small firms is positively associated with the outcome of process reconfiguration.
 - Leadership commitment capability in small firms is positively associated with the outcome of process reconfiguration.
 - Leadership communicating capability in small firms is positively associated with the outcome of process reconfiguration.
 - Leadership coordinating capability in small firms is positively associated with the outcome of process reconfiguration.
 - Transformational leadership style positively influences sustained process reconfiguration.
 - Transformational leadership style enables explorative team learning.
 - Transactional leadership style enables exploitative team learning.
 - Ambidextrous leadership style enables explorative and exploitative team learning.
2. The value of the capabilities in the process reconfiguration would have dissipated without the actions of the leaders to enable transforming changes that made process reconfiguration possible. The central role of the leader deserves closer examination as a central element in the dynamic capabilities framework.
3. The exact dynamics of the level of leadership and situational context within the organization are fertile ground for new research.
4. Leaders at different levels and in different sized organizations and different industries within different cultural settings can also be examined for degree of influence of organizational learning and change. It would be particularly interesting to discover if the same dynamics are observed in larger firms or different geographical or cultural settings.

5. Longer-term studies of the phenomena of leadership behaviour and organizational learning, the influence of change, and sustained high performance that cross different environmental conditions and settings also merit further research.

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